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THE DOCTOR AND THE PUBLIC*

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YAZOO CITY, MISS.

I wish to express to this Association my very sincere appreciation of the honor they have conferred upon me. It is indeed a great compliment to any man to have the doctors of his State testify by this election their faith in his character and their opinion of his professional integrity and attainments, and if I could feel worthy of this faith it would be a great satisfaction.

The subject of the "Doctor and the Public" is one of such great scope, covering the efforts, hopes and ambitions of such a mass of people, that in my short discussion I shall only touch upon a few important facts. Progress in every department of human endeavor seems in this generation to have received a wonderful stimulant and many amazing things have been accomplished. But human nature is so constituted that the miracles of yesterday are regarded as commonplace today and the great progress in medicine and surgery is accepted as a matter of fact. But little thought is given to the men who have devoted their time and in many instances sacrificed their lives in an unselfish effort to serve their fellow man, and make this world a safer place for the human race. What has been accomplished would fill volumes but I shall mention only a few of the discoveries that are particularly spectacular.

*President's Address read before the Mississippi State Medical Association, Meridian, Miss., May 8-10, 1928.

The prevention of smallpox is one. The cause of yellow fever is known, a most important discovery for us, for this generation has seen the people of our Southland stampeded and our business paralyzed due to the appearance of this disease. We shall never see that again. Typhoid fever has killed more people than the bullets of all the wars of the world. Malaria is a disease that has for centuries greatly damaged us both physically and financially, but now that the cause is known, will be, in time, simply a matter of historic interest. The prevention of tetanus and hydrophobia should be mentioned. Diphtheria should receive special emphasis for when this disease invades the home the serious illness of the baby fills our hearts with terror and we are mortified at our neglect of toxin-antitoxin which is a wonderfully dependable preventive.

The baby is the great joy maker of this world. The home with a baby in it is a happy home, and if it happens to be a grandbaby, emphasizes this statement. Fame and fortune may come to you but as a real permanent satisfaction the baby heads the list, and if any of you are missing this wonderful opportunity for real pleasure my recommendation is—well, it is obvious.

The welfare of the baby is of the greatest importance, and in spite of this fact, we can find thousands of our little children in Mississippi who are not protected from diphtheria, typhoid fever and smallpox. So far as these children are concerned, they had just as well have lived before these wonder-

ful preventive measures were discovered. If your baby dies from one of these diseases, don't forget that your gross neglect killed it. The first of this month was "Child Health Day" and its slogan is "Better Children for our Nation; a Better Nation for our Children". We should aid this movement in every way. The death rate of infants has been materially reduced, and we are exerting every effort to secure a greater reduction.

The death rate of grown people can be reduced by periodic health examinations. Disease will be discovered early and in many instances will be eradicated in their incipiency.

Many of you have your automobile looked over by a skilled mechanic even though it is apparently in good condition, but you do not consult your doctor until there is a bad knock in the human engine and unfortunately he cannot follow the mechanic's plan and order you a new heart or a late model kidney. Learn your defects EARLY. Dr. William Haggard in an address on this subject said: "Neglect your business if you must, neglect your golf if you can, neglect your wife if you dare, but don't' neglect your physician and a yearly physicial examination and health inventory on your birthday."

These diseases that I have mentioned are just a few of a long list that could be named in which scientific medical men, working for your good alone, have produced valuable remedies and in some instances specifics, but unfortunately the number of doctors who have shown unusual proficiency in research work and in medical discoveries is limited, for it seems that nature is not liberal in producing leaders, but in a moment of great generosity, gives to each generation a few geniuses in each department of human endeavor. This generation is presented with Edison for illumination; the Wright brothers for rapid transportation; DeForrest and Marconi for communication; McDowell, Long, Lister, Sims, Pasteur. Koch and others in medicine and surgery.

The public cannot be served directly by these masters, but you have a vast army of faithful, honest and competent doctors, who are ever watchful of your welfare and daily render you splendid service. These men have been well trained for their work and following our earnest desire to furnish you competent doctors we have gradually raised the requirements so that today the course of training ncludes four years at college, four years at the medical school, and usually one or two years as intern in a hospital. Ten years of preparation and then a rigid examination before the State Board of Examiners. We do this for your protection, while the facts are, I regret to say, that often you are lured by flagrant advertisements and extravagant claims to consul the various types of charlatans, quacks, and alleged healers, some drugless and some drug givers, but all without merit under the cool analyses of scientific investigation. They feed upon you and grow fat. There is no legislative restrictions or even moral restraint covering this class of human leeches and if you are to be saved from this imposition you must be saved by your own volition. Correct information may be obtained by intelligent investigation and a definite appreciation of the truth which we are constantly presenting to you.

Some one has said that "only the sick are interested in health" but this is not true. Your State and your Government spend money every day to keep you well. In our own state we have a health department composed of competent men who by their intense earnestness and unusual activities have been able to accomplish results that have attracted attention in other states and even from the health department in Washington. Our State Board of Health is exerting every effort not only to teach you the fundamental laws of sanitation and hygiene, but they are placing in many counties all time health officers, who are devot-

ing and spending money solely in your behalf.

That they are occasionally opposed in this philanthropic work proves that ignorance has always been and still remains the greatest barrier to human progress. Education of the masses has been slow and tedious and therefore rather discouraging. Many people, not always ignorant people, find it difficult to realize that doctors, who make their living out of sickness, could be so vitally interested in preventing sickness. It is sacrificing our material welfare for the public good and that idea is too big, broad and generous for their little minds and selfish hearts to grasp. The great Elisha Bartlett appreciated the value of the humble. honest and hard working doctor when he said: "There is no process which can reckon up the amount of good which the science and art of medicine have conferred upon the human race. There is no moral calculus that can grasp and comprehend the sum of their beneficent operations. They have lightened the load of human sorrow. They have rekindled the lamp of hope in the bosom of despair. And finally when exhausted in all their resources and baffled in their skill—handmaids of philosophy and religion—they have blunted the arrows of death, and rendered less rugged and precipitous the inevitable pathway to the grave". That is a noble service to render to your fellow man.

Now what has the public done for the doctor? As a state you have appropriated money and as individuals you have furnished financial assistance, and what is of more importance, you have in many instances devoted your time and your influence in aiding us in this great educational campaign for better health. The editors of our papers, leaders as they are and great moulders of public opinion, have rendered valuable assistance, and I am pleased to have this opportunity to express to them a word of appreciation. It has been my hope that I might be able in this short talk to present for your consideration a few simple facts. Facts that you should know. Facts that if placed in practice will be of inestimable value to you personally and by your interest and your efforts may prove to be equally as beneficial to your friends.

So let the doctors and the public unite in an earnest, honest, faithful, and unselfish effort to serve the poor, the sick and the afflicted and when we have done that, we will have the satisfaction of knowing that we have given the noblest service that can be rendered by man.

STAPHYLOCOCCIC TRACHEO-BRONCHITIS FOLLOWING TONSILITIS.*

J. S. ULLMAN, M. D.,

NATCHEZ, MISS.

An attempt to find anything in the literature on this subject brings me to the conclusion that this is a rare condition. Up to the present time, the only other cases that I can find are five reported by R. C. Lynch, of New Orleans(1), in May, 1924. In none of his cases is anything said of the tonsils. In my case the illness began as a tonsilitis and the trouble was confined to the tonsils for several days. My little patient, six years of age, did not seem ill at all, and the temperature did not go above 100. Because of the prevalence of diphtheria in town, a culture was taken and a report of "no B. diphtheriae present. Pure culture staphylococcus albus" was made.

Because of hoarseness developing the next day, Dr. L. S. Gaudet was called in to make a laryngoscopic examination. Lime water steam inhalations were prescribed and afforded the patient considerable relief. During the next few days a few transitory rales were heard, but there was no evidence of any consolidation or even of anything definite enough to be called bronchitis. On the sixth day, however, with a temperature of only 99, quite a number of mucous rales were heard over the chest, but my notes

*Read before the Mississippi State Medical Association, Meridian, Miss., May 8-10, 1928.

state that the throat looked better. We felt much encouraged, but on the seventh day of the illness, December 25, 1927, I was called at 6 A. M. because the patient had been complaining for two hours of difficulty of breathing. Her temperature at that time was 99 2/5. Dr. Gaudet was called again and found a whitish membrane extending down the pharyngeal wall into the larynx and trachea. It seemed that in spite of the low temperature, cyanosis was increasing rapidly and the patient's circulation was growing weaker. She was rushed to the sanatorium and preparation made for tracheotomy and bronchoscopy, but by the time the hurried tracheotomy was performed and the bronchoscope introduced, the patient only breathed once or twice. Although considerable fibrinous exudate was withdrawn, all efforts at artificial respiration were without avail in spite of the fact that they were kept up for more than an hour. The material removed by Dr. Gaudet was a cast of the trachea and bronchus. Cultures taken from this material again produced nothing but the staphylococcus albus.

There are a number of cases in the literature of diphtheritic tracheo-bronchitis, but so far as I have been able to find the five cases by Lynch and the one of mine are all that have been reported as due to staphylococcus albus. As mentioned above, my case is the only one reported as clearly being a definite extension from what began as a very trivial tonsilitis. The signs to be remembered are: a low temperature, hoarseness, which may amount to aphonia, and cyanosis. In some of the cases a portion of the membrane becomes loose and we have a peculiar flapping sound in the larger bronchii, which the French describe as "bruit de drapeau."

In the matter of differentiation, of course, the only positive and definite procedure is a thorough bateriological investigation. Clinically the membrane is of a yellowish white rather than the dirty gray appearance of diphtheria. The diphtheritic membrane is the result of a destructive process in the mucosa, while the staphylococcic membrane appears to be a deposit of the fibrinous exudate on the surface which is much more easily detached and practically without any tendency to bleeding. In diphtheria the temperature is high and from the beginning the patient seems ill, while in the staphylococcic tracheo-bronchitis the patient does not seem at all ill until the cyanosis and toxemia develop, and these seem to be a late feature.

Some of the continental authors as well as the older American writers speak of a fibrinous bronchitis of a more chronic type, but nothing I have been able to find would answer to the description of this trouble but the cases reported by Lynch.

In 1919, Chickering and Park[2] reported a number of cases of pneumonia due to staphlococcus aureus occurring in army camps. Quoting them: "From the standpoint of our present knowledge, it would seem probable that the particular staphylococcus aureus found in the lungs of these cases was no other than that found often in the mouth secretions of healthy persons. However, the depression of the individual's defensive mechanism by the primary epidemic infection was sufficient to enable the organisms subsequently to produce widespread pulmonary lesions. This, in turn, explains the occurrence of the infection in almost every organization in Camp Jackson and a higher incidence of the infection among the more recent arrivals in camp, irrespective of the States from which they came."

My patient was not depressed and there was nothing to indicate a lowering of resistence to account for the tonsils being infected by the staphylococcus albus.

Pfaundler and Schlossmann say[3]: "Membranous or plastic (fibrinous) bronchitis is a disease the chief characteristic of which is tubular, white or yellowish white exudation on the mucous membrane of the trachea or of the bronchial tree.

Leaving out of consideration the frequent diphtherial bronchitis, bronchial croup in its limited sense, one not infrequently finds in croupous pneumonia, a membranous coagulum formation in the finer bronchi emanating from the alveoli. Besides these two diseases which we do not consider here, membranous bronchitis rarely appears, and is in children especially seldom met with, probably only from about the fourth year on."

It is evident that anti-diphtheritic serum would be of no value in such cases.

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Since writing the above a personal communication from Dr. R. C. Lynch of New Orleans states that he has seen a few more cases and that "I am quite sure that they are typical, and once diagnosed, the treatment as outlined is better followed than by the use of such large quantities of anti-diphtheritic serum. *** None of the cases had an acute follicular tonsilitis, or anything that the tonsils could be blamed for. So far as I can think at this time, five of the cases recovered, and the sixth died of a second attack, which resembled the first in every detail."

DISCUSSION.

Dr. Lucius S. Gaudet (Natchez): Last Christmas proved to be a very sorrowful day for Dr. Ullman and myself as well as the family of this poor little child. There were five children in this family, four boys and one girl, and unfortunately on that day the little girl died. There is very little to offer in the way of discussion because of the fact that these cases have been very rare with us.

The staphylococcus albus is a very common organism, and not prone to do much harm as a rule. The particular anti-bodies fortifying the system against this infection, for some reason or other must fail at this time, and the barriers are let down and a gradual extension from the upper respiratory to the deeper respiratory take place. I wonder what relationship tracheo-bronchitis bears to the old condition known as suffocative catarrh?

We deal first with a catarrhal inflammatory process which extends into the sub-mucous layers of the trachea and bronchi. If the process continues to go deeper into the vascular or areola tissue we

have ulceration and necrosis of the upper layers and great thickening and obstruction of the air passages and cyanosis.

The great point that we should stress is the fact that most of us would, under ordinary circumstances in a case of that kind, immediately give diphtheria antitoxin, but as the child was so little sick at that time we took the time and made the cultures and not finding any positive proof of diphtheria, we could not give it. We had no difficulty in making examinations. She was a very good little patient. We had no difficulty in passing the bronchoscope. We did not even use an anesthetic, because she was practically in a dying condition when we took her to the Sanitorium; in other words, she became very much worse very quickly.

BLOOD-PRESSURE IN PULMONARY TUBERCULOSIS.*

OSCAR W. BETHEA, M. D.,

NEW ORLEANS.

Pulmonary tuberculosis is so prevalent and its recognition is of such importance to the patient and to others that any aid to diagnosis is always of interest.

It has been recognized that the tendency of the disease is toward a reduction in blood-pressure. Some feel that this reduction only runs parallel with the general loss of weight and the exhaustion of the patient, while others believe that there is a characteristic tendency to a hypo-tension beyond this.

Some standard texts do not mention blood-pressure in connection with this disease, others only briefly refer to it, while a few discuss it in considerable detail.

The attitude of some of the best known writers is well shown by the following extracts:

a. Landis in Oxford System of Medicine. "The blood-pressure is usually low during the active stage of the disease. As the symptoms disappear and health returns the blood-pressure rises to a normal level. In cases of 'masked' or 'occult' tuberculosis a low systolic pressure and a marked lowering of the pulse pressure in the erect posture is of great diagnostic significance."

b. Paterson in Tice's System, says in part: "It may be stated as a general rule that in all stages of tuberculosis a condition of hypotension exists and that this hypotension is secondary to the tuberculous process."

c. Lawrason Brown in Cecil's Text-Book of Medicine. "In favorable cases the blood-pressure is usually normal but often in the advanced stages, especially when there are ulcerative lesions, the systolic pressure is low and the diastolic high. In general, however, pulmonary tuberculosis affects the blood-pressure less than any other wasting disease. The difference between the lying and standing pressure may be greater than normal."

d. Norris & Landis in Diseases of the Chest. "The blood-pressure in tuberculosis subjects is usually low. If the disease undergoes arrest and health is restored the blood-pressure returns to normal. Cardiac weakness is not uncommonly present and occasionally is the cause of death."

e. Craig in DaCosta's Treatment. "The blood-pressure is almost always low in individuals suffering from tuberculosis, this peculiarity being so universally true that the presence of arterial hypotension should always suggest the probability of this diagnosis."

Some years ago we arranged at Charity Hospital, New Orleans, a male, white Tuberculosis Evacuation Service, of which I was placed in charge. All male, white patients seeking admission to the hospital, if suspected of tuberculosis, were sent to this service to be worked up, and if found to have the disease disposed of in one of the following ways, depending upon the physical, financial and domestic status of each case:

*Read before Louisiana State Medical Society, Baton Rouge, April 10-12, 1928.

1. Sent to the Breaux Tuberculosis Building as vacancies occurred.

2. Sent to Camp Hygeia.

3. Arrangements made for them to be sent to some other institution as private patients.

4. Improved and sent to the Out-patient Department.

5. The disease arrested and the patient sent home for further treatment.

In diagnosis we soon became interested among other things, in the matter of blood-pressure and for 31 weeks kept a weekly record of the blood-pressure of these patients.

As a matter of interest for comparison we also recorded weekly readings of the patients in the rest of my service, which was devoted to male, white, general medicine.

Many readings were missed due to patients being in the hospital too short a time or being in the courtyard or elsewhere at the time of making the weekly rounds for pressure readings.

In the tuberculosis service during the period of this investigation we made 474 blood-pressure readings on a total of 151 patients. In the general medical service we made a total of 344 readings for comparison.

The ages of the tuberculosis patients averaged over 40 years, all but five were over 20 years of age, the youngest was 16.

Only seven patients showed a systolic pressure as high as 140 at any reading and only one went beyond this amount. This man gave one reading of 160. He was 64 years of age and had been admitted with a tentative diagnosis of tuberculosis, a positive diagnosis was never established but he did have advanced arterio-sclerosis with senile psychosis. I feel that he should not be included in these statistics. Of the other six whose systolic pressures reached 140 only two were found to have positive sputa and in the other four there was always an element of doubt as to their being tubercular.

Of the total of 474 readings, if we omit the case of the old man previously mentioned, the record of systolic pressures would be as follows:

Between 140 and 130.....	19
Between 130 and 120.....	33
Between 120 and 110.....	82
Between 110 and 100.....	116
Between 100 and 90.....	132
Between 90 and 80.....	59
Between 80 and 70.....	16
Between 70 and 60.....	1
Between 60 and 50.....	1

In the general medical service the 344 blood-pressure readings were as follows:

Over 200	7
Between 200 and 190.....	3
Between 190 and 180.....	4
Between 180 and 170.....	4
Between 170 and 160.....	13
Between 160 and 150.....	21
Between 150 and 140.....	27
Between 140 and 130.....	48
Between 130 and 120.....	54
Between 120 and 110.....	78
Between 110 and 100.....	50
Between 100 and 90.....	27
Between 90 and 80.....	5
Between 80 and 70.....	2
Between 70 and 60.....	1

The averages of these blood-pressure readings were as follows:

Tuberculosis service—systolic pressures 109, diastolic pressures 65.5, pulse pressures 44.5. Diastolic pressures averaged 60 per cent of systolic pressures.

General medical service—systolic pressures 128.5, diastolic pressures 70.5, pulse pressures 58. Diastolic pressures averaged 63 per cent of systolic pressures.

Through the courtsey of Dr. Durel I have been able to investigate and submit

the following report on the blood-pressure readings of the patients now in the Dibert Building for tuberculosis.

Of the 43 patients, 18 show a systolic reading of over 100.

25 of 100 or under.
14 of these are 90 or under.
3 show a systolic pressure of 120.
1 of 130.
1 of 135.

While it is recognized that the number of patients on whom this data is based is rather small, in so far as it does have value, it tends to establish the following conclusions:

Conclusions—Hypertension is evidence against a diagnosis of pulmonary tuberculosis.

The tendency of the disease is toward hypotension.

Pulmonary tuberculosis shows nothing characteristic in the percentage relation between the systolic and diastolic pressures.

DISCUSSION.

Dr. George Bel (New Orleans): I consider it a privilege to have the opportunity of making a few remarks with reference to the paper presented by my colleague, Dr. Bethea. Dr. Bethea is thoroughly qualified by reason of his vast clinical experience and observation, both as a teacher in the School of Medicine of Tulane University, and as a practitioner of internal medicine, to express expert opinions on the important subject of blood pressure in tuberculosis.

As we have been so frequently informed tuberculosis is a universal disease, visiting practically all races and every latitude, and, as the modern theory of the prevention and curability of the disease depends primarily upon early diagnosis, it becomes the duty of the physician to determine the existence of the disease by carefully employing all known methods, symptoms, signs and tests at his command, and surely, blood pressure determinations deserves serious consideration.

The blood pressure is lowered in many cases from the very onset, and, in the majority of cases the preponderance of evidence suggests the existence of hypotension.

Hypotension naturally varies during different stages of tuberculosis, depending upon the determining factor, which is always a toxemia. In the truly primary incipient infection the irritation of the tuberculous toxin causes a dilatation of the arterioles and is accompanied by lowered blood pressure and we may extend this statement to cover many obscure and inactive cases.

As secondary infection, due to secondary invaders of all sorts, such as, pyogenic cocci and bacteria of all types, yeast cells and moulds, supervene, the disease advances and produces an asthenic condition with lowering of the blood pressure.

It is well to remember in the presence of certain complications, especially arteriosclerosis, nephristis, cardiac hypertrophy, etc., that the blood pressure may be elevated either permanently or transitorily.

I have been impressed by the uniform diminution of blood pressure exhibited by my patients, and in cases of incipient infection, when the diagnosis is somewhat obscure, I have attached a degree of importance to a continuous diminution of blood pressure.

While I believe that continued hypotension is of diagnostic importance and adds to our clinical armamentarium and should always be carefully considered, we must remember that no one symptom of tuberculosis is diagnostically conclusive excepting the finding of tubercle bacilli in the sputum.

Dr. W. J. Durel (Covington): In the last thirty years, I have made the routine practice of taking the blood pressure of all our cases, and these are the conclusions that I have drawn: In the active cases of the young individual, there is always a low tension, but remember that the low tension of the tuberculous patient is a low tension of the systole.

Now, in coming to conclusions, we must consider that the individual knows he has tuberculosis, and he is also susceptible to other fears. Take, for instance, if we have a woman coming to us around the menopause stage, though she be an active sase, we must expect the tension to be higher.

In the last thirty years, I have noticed much high blood pressure, myself. I had tuberculosis, thirty-five years ago, my pulse pressure was very low, I fed on a high protein diet, ate as many as twelve eggs a day; today, I wish I could again develop a tuberculous condition, because I am seldom less than two hundred. I might balance.

We see probably more high blood pressure in tuberculosis today than we saw twenty years ago,

therefore, the fall in the systolic is more significant than the fall of the diastolic, that is, you seldom see a fall in the diastolic.

Now, the second condition is that the pathology of the lungs certainly must lead you to the conclusion, you take a fibroid lung, where the heart is pulled from cardio-pulmonary adhesions, you are going to have low tension. You take the average little girl who comes to you with acute active tuberculosis, you take a cardiac, of course, the tension is going to be lower. You take the average case of certain displacement of the mediastinum after collapse, you are going to have lower tension.

In other words, my conclusion is this, fifty per cent (looking back twenty years) of cases I have taken blood pressure showed a normal blood pressure, many of them were active tuberculosis, I mean the average young man of twenty-four, we will say, with a blood pressure of eighty-one, thirty per cent of the cases of that age have come with a blood pressure systolic under one hundred; about twenty per cent (and these cases are generally over forty) show a tension sytolics, and there you have not only a rise in the systolic, but you have also a rise in the diastolic.

Chairman J. H. Musser (New Orleans): Is there any further discussion of this interesting paper of Dr. Bethea's? I want to interpolate a word or two: I remember, about twenty years ago, a little booklet brought out by Dr. Nicholson, in which he mentioned that anybody with a persistent blood pressure under one hundred and ten should be considered as having tuberculosis, and if they persisted under one hundred, they definitely had tuberculosis. Like most dogmatic statements, this is not true, but still, there is a certain element of truth in it.

Dr. Oscar W. Bethea (closing): There is practically nothing to add to my previous remarks. We do not claim that a patient with high blood pressure is immune to tuberculosis, he may acquire it; or, an individual with tuberculosis may develop some condition that will lead to hypertension, but the tendency of the disease is toward hypotension. You will remember that both Dr. Bel and Dr. Durel concurred in this contention.

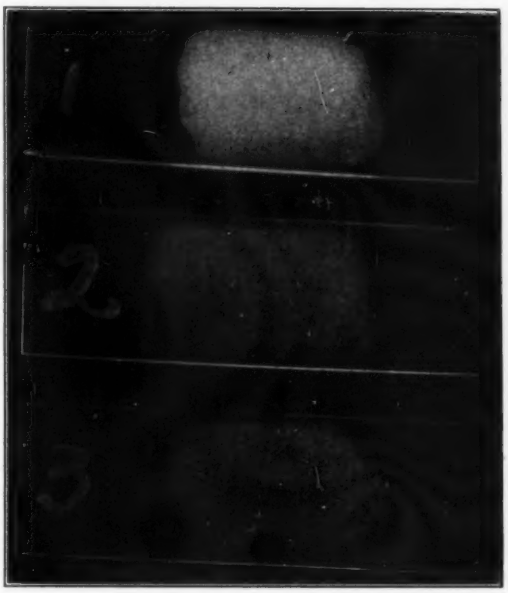
This tendency of tuberculosis to hypotension has been of distinct benefit to me in diagnosis. This has been especially the case in differentiating the disease from hyperthyroidia, associated with fever, and from certain cases of heart and kidney disease characterized by hemoptysis.

COMPARATIVE RESULTS WITH THE WASSERMANN AND PRECIPITATION TESTS.*

H. W. BUTLER, M. D.,†

NEW ORLEANS.

Many experimentors have used the flocculation principle of the Germans, and devised various tests for syphilis. Many of them carry the names of the individuals who modified the method in use. The antigens are all essentially alike, and may be changed in such a way as to be suitable to any technic desired, the object being to add specificity and simplicity to the test. The specificity resides entirely within the antigen. There are three ways by which the reaction of the test may be recognized: First, by reading the particles suspended in the fluid in a test tube; second, by reading the amount of particles after they have



THE BUTLER SLIDE—PRECIPITATION TEST.
Slide 1—Negative.
Slide 2—Positive.
Slide 3—Strongly positive.

*Read before the Orleans Parish Medical Society, May 14, 1928.

†From the Department of Medicine, Tulane University School of Medicine.

settled to the bottom of the tube after cracking an emulsion which serves as an indicator; third, by reading the precipitate on a slide. The precipitation and subsequent agglutination of the particles in the colloidal suspension is brought about by an electrical change or by some other unknown influence. We have tested three thousand blood sera in our laboratories with the assistance of Doctors Hauser and Couret of the Pathological Department of Charity Hospital, who made the work possible.

I now wish to present to you the results of these tests:

COMPARATIVE RESULTS ON BLOOD SERA USING THE KOLMER WASSERMANN ANTIGEN AND THE ORIGINAL MEINICKE ANTIGEN.

	WASSERMANN	MEINICKE
72	Strongly positive	Strongly positive
5	Negative	Strongly positive
3	Negative	Moderately positive
8	Moderately positive	Strongly positive
6	Strongly positive	Moderately positive
1	Weakly positive	Strongly positive
4	Weakly positive	Moderately positive
1	Moderately positive	Moderately positive
2	Moderately positive	Negative
1	Weakly positive	Weakly Positive
1	Anticomplementary	Weakly Positive
2	Anticomplementary	Moderately positive
436	Negative	Negative
542		

RESULTS OBTAINED WITH THE KOLMER WASSERMANN ANTIGEN USING IT IN BOTH TESTS.

	WASSERMANN	PRECIPITATION
43	Strongly positive	Strongly positive
11	Moderately positive	Moderately positive
3	Weakly positive	Moderately positive
2	Weakly positive	Negative
1	Negative	Moderately positive
6	Moderately positive	Strongly positive
1	Weakly positive	Moderately positive
6	Weakly positive	Weakly Positive
2	Anticomplementary	Negative
2	Strongly positive	Negative
4	Anticomplementary	Strongly positive
489	Negative	Negative
570		

RESULTS WITH THE VEAL HEART ANTIGEN AND THE KOLMER WASSERMANN SYSTEM.

	WASSERMANN	PRECIPITATION
186	Strongly positive	Strongly positive
1	Strongly positive	Negative
1	Weakly positive	Negative
1	Negative	Strongly positive
4	Anticomplementary	Strongly positive
1	Negative	Moderately positive
9	Moderately positive	Strongly positive
10	Weakly positive	Strongly positive
10	Negative	Weakly Positive
3	Weakly positive	Weakly Positive
3	Strongly positive	Moderately positive
5	Moderately positive	Moderately positive
2	Strongly positive	Weakly Positive
1776	Negative	Negative
2012		

THE BUTLER SLIDE TEST.*

B. G. EFRON, M. D.,

AND

C. A. WEISS, M. D.†

NEW ORLEANS.

Since the publication of Kahn's test for syphilis, interest in the precipitation tests has been greatly stimulated, and in many laboratories the complement-fixation and the precipitation or flocculation reactions are being run simultaneously. Some workers have gone so far as to abandon the Wassermann in favor of the Kahn or other precipitation test. When correctly performed the Wassermann is the most accurate and constant single index of syphilis; however, it is well known that it is not a specific test for syphilis, its reaction depending not upon a specific antibody, but upon a lipoidal substance called reagen, which is present in the blood of many syphilitics. The technique of the reaction is delicate and complex and subject to error from a large number of sources. Its complexity and delicacy have led many serologists to search for an equally reliable, but technically simpler procedure.

*Read before the Orleans Parish Medical Society, May 14, 1928.

†From the Gastro-intestinal and Pathological Departments of Touro Infirmary.

During his investigation of various precipitation tests, Butler devised a simple slide test, which because of its simplicity, rapidity in performance, stability of its antigen, and its agreement when compared with the Wassermann, commends itself most highly as a procedure to be used in conjunction with this complement fixation reaction. It is our purpose in this report to describe the results on comparing the Butler with the Wassermann test.

PROCEDURE OF THE BUTLER TEST

Stock Antigen—The Butler antigen is an ether extracted acidified cholesterolized alcoholic extract of fresh baby veal heart. Details of procedure are fully described by Butler and will not be repeated here. The antigen is stable for a variable period, at least several weeks. Some antigens remain in good condition for months. When the antigen spoils a fine granular precipitate forms in the antigen-water dilution.

Antigen-Water Dilution—The antigen-water mixture which is used for performing the test is made by mixing in a dry test tube one part of stock antigen with two parts of distilled water. Care must be taken that the graduated pipette be washed out with 95 per cent alcohol before going into the stock antigen bottle. The dilution should be thoroughly mixed by alternately sucking up and forcing out the mixture, holding the tip of the pipette against the bottom of the tube. The resulting suspension should be opalescent and should not show a precipitate when rocked alone on a slide. The mixture should be made just before the test is done. Although some mixtures may remain good for an hour or more, we have found a precipitate in others at the end of twenty minutes.

Serums—These are obtained as for the Wassermann test. In this series both inactivated and non-inactivated sera were used; inactivation, however, is not necessary.

Technique of the Test—Two drops of serum are placed in the center of a scrupulously clean microscopic slide; three drops of the antigen-water dilution are then placed next to, but not into, the serum. These are mixed thoroughly for twenty seconds with a clean tooth-pick. The spread of the fluid should be limited to an area the size of a quarter dollar. The slide is then tilted gently from side to side for the remainder of a two-minute period and then a reading is made. Positive and negative controls with known sera should be set up with each series of tests.

Reading—The test should be run during day-light. Reading is made by indirect light, sun-light or day-light from a window, looking toward the light with a black surface beneath the slide for a back-ground.

Four reactions are noted:

1. Strongly positive—heavy, flocculent white precipitate.
2. Positive—definite white precipitate.
3. Weakly positive—slight precipitate.
4. Negative—no precipitate or change from its first appearance.

The positive reactions usually occur within the first few seconds of mixing or tilting. These reactions are easily read. Particularly impressive is the strongly positive reaction, in which the homogeneous opalescence of the serum-antigen dilution gives way, usually within a few seconds, to numerous large white flakes against an almost transparent back-ground. The negative reaction usually offers no difficulty in reading. A few small flakes in a homogeneous opalescent mixture are usually discounted and are not taken into consideration; however, a weakly positive reaction is at times difficult to read and one is occasionally hard-pressed in deciding its presence or absence. Butler states "the weakly positive reaction should be disregarded for diagnostic purposes."

Wassermann — The Wassermanns reported here are of four types of technique, each type constituting a series. One series consists of inactivated sera using acetone

insoluble antigen with incubator fixation; the second series consists of unheated sera using acetone insoluble antigen with water bath and over-night ice-box fixation; the third series consists of inactivated sera using cholesterolized antigen with water-bath and over-night ice-box fixation; and the fourth is similar to the third, except that the serum was unheated.

In this study it was found that there was agreement of the Wassermann and Butler tests in eighty-nine and nine-tenths per cent, relative agreement in six and two-tenths per cent and disagreement in three and nine-tenths per cent. Analysis of our results appear in the tables.

TABLE 3.

Five hundred and one negative Wassermann compared with Butler test.

	Tests	Percent
Agreement	454	90.6
Relative agreement	32	6.2
Total	485	96.8
Disagreement	16	3.2

Wassermann anticomplementary, 3 cases; Butler test, positive 2, negative 1.

TABLE 4.

Results of comparison of the 664 Wassermann and the Butler test.

	Tests	Percent
Agreement	597	89.9
Relative Agreement	41	6.2
Total	638	96.1
Disagreement	26	3.9

TABLE I.

	Wassermann	Butler			Agreement	Rel. Agreement	Disagreement
		S. P. or P.	W. P.	Neg.	Percent	Percent	Percent
Noguchi Antigen Inactivated Sera	68+++	59	5	4	87	7.3	5.9
	2++	2	—	—			
	9+	4	4	1			
	222—	6	12	204	91.9	5.4	2.7
Non-Inactivated Sera	39+++	35	2	2	89.7	6.2	4.1
	1++	1	—	—			
	2+	1	—	1			
	116—	4	16	96	82.7	13.9	3.4
Cholesterinized Antigen Inactivated Sera	25+++	22	1	2	88.0	4.0	8.0
	68—	4	—	64	94		5.9
Non-Inactivated Sera	25+++	24	—	1	96.0		4.0
	3++	—	2	—			
	5+	3	1	1			
	95—	2	3	90	94.7	3.2	2.1

Agreement=positive or negative with both methods.
Relative agreement=positive or negative Wassermann and weakly positive Butler.

TABLE 2.

One hundred and sixty-three positive Wassermanns compared with the Butler test.

	Tests	Percent
Agreement	143	87.8
Relative agreement	10	6.1
Total	153	93.9
Disagreement	10	6.1

Positive reaction=+++, ++.

COMMENT.

This study shows a remarkable degree of agreement between the Butler and the complement fixation tests. The variations in the percentages of agreement and disagreement, using different types of Wassermann's, are the results of small series rather than actual differences. Both tests should be performed, as they shed a com-

plimentary light on each other. Discrepancies should be expected with any two tests in which different antigens are used. Simplicity of technique does not infer that it is so simple in the sense that any one can perform it. The Butler test should be performed by trained laboratory workers. It is a serologic reaction and as such is subject to the errors common to serology. In this respect we differ with Butler who states, "It is designed for the physician who wishes to test the serum reaction of his patient for his own information." Positive and negative controls must be done at the same time as the patient's serum is examined, because false reactions may occur and are usually false positive reactions. We have observed false positives as the result of running the antigen-water dilution into the Wright bulb on the pipette, on improper mixing of antigen and water, too long standing of the antigen-water mixture before use, and instability of the antigen. False reactions can be recognized only by the use of control sera, a procedure with which the practitioner is unlikely to be able to comply.

CONCLUSION.

The Butler slide test is to be regarded as a valuable adjunct to the laboratory diagnosis of syphilis, in consideration of its simplicity of technique, rapidity of performance, usual definite readings and high percentage of correlation with the Wassermann reaction. At this time it finds its greatest value as a check on the complement fixation test. The Butler should be done by properly trained laboratorians.

We wish to express our appreciation to Dr. Lanford for his kind advice and cooperation.

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DISCUSSION.

Dr. G. H. Hauser (New Orleans): I believe Dr. Butler is to be congratulated on the remarkable results he has gotten in this test compared with the Wassermann reactions, especially in view of the simplicity of the test, which no doubt is one of the simplest we have.

In running the series from Charity Hospital, which Dr. Butler has presented, I had occasion to look after the Wassermann reactions. Each blood when taken was put in separate tubes, one tube for the precipitations by Dr. Butler, and the other for Wassermanns at Charity Hospital, so as not to be swayed by the result of each individual worker. It was almost uncanny as to how they would tally, negative or positive, the results nearly always tallying in both tests. We used Kolmer antigen with ice-box fixation, which I believe is one of the best methods of Wassermann reaction. The weakly positive reactions were the ones that gave what little trouble we had, and I believe, in different series of Wassermann tests we will have that same trouble.

The precipitation tests are very simple, only a few reagents are necessary; laboratory animals are not necessary and we do not have to deal with anti-complementary results that often worry us when running Wassermann tests.

In regard to other precipitation tests, all have serious drawbacks. For instance, Mienicke, who uses an antigen of horse hearts. In this country it is impossible to get sufficient horse heart to supply us with antigen. The technique of running this test may be simple, but I am not quite so sure, from observing a limited number, that it does not occasionally give a positive reaction in the absence of syphilis. In other words a positive reaction on sera negative with the other reactions. We have recently had a spinal fluid, with Wassermann reaction, cell count, and globulin absolutely negative, give us a strongly positive Mienicke; the Butler tests, however, on this serum was negative, and from clinical data, I believe it was a false positive reaction in this case.

Much has been written lately of the Kahn test, especially as to its simplicity, claiming that anyone with a few reagents can run it. I do not believe you will find it so, and this opinion is borne out by the fact that recently at a meeting of the American Society of Clinical Pathologists some criticism was raised against the reaction. Dr. Kahn, himself, said that the only way we could correctly run the test, was by learning the technique in his laboratory. Certainly everyone who wishes to use the Kahn test cannot make a special trip to his laboratory to learn the technique.

The Butler test, using the veal heart antigen, is the simplest and most efficient test we have at present. I think we are going to find out that it will become a valuable adjunct to the Wassermann. I believe, however, that as the immunological basis of the test is quite different from the Wassermann test, we will not always get agreement between the two, but I believe it is the simplest of the precipitation tests and one of the best. I believe it should only be run in a well equipped laboratory, that control sera should be run concurrently and that the antigen must be properly prepared and its specificity checked frequently.

Dr. H. W. Butler (New Orleans): It is very gratifying, indeed, to note the close agreement obtained by Drs. Efron and Weiss in their series. However, this is to be expected when performed by men with such a high rate of laboratory efficiency. Agreement should be higher in bloods not inactivated than in those inactivated.

After the test had been placed into the hands of many different men, it became apparent that if the general profession was to use the test, certain features should be modified and improved. Hence, the excuse for the existence of the second slide test. For example, the life of the antigen should be lengthened. This was accomplished by reducing the cholesterol and acid contents. They also produce the non-specific precipitate which at times is confusing. Again, too much time is consumed in running a large number of bloods, each slide requiring two minutes of individual attention. Rocking the slide is not necessary in the new test. Lay it aside and wait five to fifteen minutes, or longer. These faults have all been corrected, we believe, in the new method.

Dr. C. A. Weiss (closing): I think that the doctors who have spoken before me have quite well covered the points that I might have discussed. It appears well demonstrated in that of Dr. Butler's series in which there is disagreement between the precipitation test and the complement fixation test employing the identical antigen that all variances can not be attributed to different antigenic sensitivity, but must be due, as Dr. Johns indicated, to distinctly different antibody responses, thus further advocating the simultaneous use of both tests in diagnosis.

I wish, gentlemen, on behalf of Dr. Efron and myself to thank you for your discussions on this subject.

LYMPHOSARCOMA OF THE ILEUM WITH REPORT OF A CASE.*

MARTIN O. MILLER, M. D.

NEW ORLEANS.

Briefly reviewing the literature of lymphosarcoma of the gastro-intestinal tract, it is most frequently found in the lower ileum; it may appear at any point from the stomach to and including the rectum. The proportion of lymphosarcoma of the small intestine to that of the large intestine is about 2 to 1, and the relation between carcinoma and sarcoma of the large and small intestine is about as 1 to 20.

According to Speese the fourth, third, fifth, and second decades is the order of frequency of the ages afflicted with lymphosarcoma of the ileum. The literature shows reported cases of lymphosarcoma in the small bowel and colon to be approximately 300. Kreuger gave the following statistics of 37 cases; the small intestine, 16; ileum and cecum, 1; small intestine and colon, 1; rectum, 16. As compared to carcinoma of the gastro-intestinal tract, Stengel states the combined statistics of Nothnagel, Zemann, Muller, Bryant, and Madyl show that 6.22 per cent of all intestinal cancers occur in the small intestine. Brill, in collecting reports on 2,128 cases of intestinal cancer, found 2.3 per cent in the small intestine.

Numerous theories have been advanced as to the cause of sarcomatous growths, among which it is especially difficult to differentiate from tuberculosis or some form of infectious granuloma of the intestinal tract. The lesions often exhibit lymphocytes, plasma cells, eosinophilic cells, and necrosis, and cases in which tubercle bacilli are missing may closely resemble hyperplastic tuberculosis. Tuberculous intestinal ulcers closely associated with widespread sarcomatous lesions in mesentery and retroperitoneal nodes are described by Nothnagal and others. Thus it seems highly

*Read before the Orleans Parish Medical Society, New Orleans, January 23, 1928

probable that many cases of lymphosarcoma arise from a tubercular basis and that the process thus established progresses of its own momentum. That tuberculosis is not always the deciding factor must be granted. Ribbirt assumes that all true lymphosarcomata arise from abberant and undifferentiated cell groups and that tuberculosis often serves as the exciting factor to growth.

The question as to the rarity of carcinoma of the small intestine is perhaps best explained by Bunting who states that the small intestine from the entrance of the common duct into the duodenum to Meckel's diverticulum in the lower ileum is a simple, unbranched tube, without variation in its type of lining epithelium, without sharp bends, without diverticula and containing, as a rule, in health, semi-fluid, mechanically non-irritating material. That carcinomata are most prone to arise where there are changes in the type of lining epithelium and at points where the surface is most liable to mechanical irritation, and in which the new growth has originated at a point where peritoneal adhesions have interfered with the normal action of the intestines.

HISTO-PATHOLOGY.

According to Ewing, the earliest stages of lymphosarcoma appear as a localized thickening of the submucosa with or without ulceration. The process extends laterally and invades and destroys the muscular layers and appear as a subserous tumor which soon forms adhesions. The early involvement of the muscularis produces paralysis of the bowel with the production of dilatation by gas and feces. The intestinal dilatation is an especial, although not constant, attendant phenomenon of lymphosarcoma of the intestine. Large polypoid growths protruding into the widened lumen without ulceration are also observed. Metastases appear early in regional nodes and they may extend into many other organs. Extension of the process in the early stages appears to be exclusively by way of the lymphatics, but in many advanced cases true metastatic growths form in the lungs, brain, kidneys, skin and other organs, which are satisfactorily explained only by invasion of the blood vessels.

SYMPTOMOTOLOGY

Unfortunately there is no definite train of symptoms referable to lymphosarcoma of the ileum. Among the most common are those of a chronic enteritis, indefinite abdominal pain, dyspepsia, irregular stools, alternate constipation and diarrhea. A rapid loss of weight and strength is nearly always evidenced. Ascites and edema are rare. There may be a more or less constant moderate elevation of the temperature. Pain, usually epigastric, and abdominal distention are perhaps the most prominent symptoms. The abdominal distention may be due to one or more of the following conditions and may occur suddenly—intestinal perforation; tympanites; peritoneal involvement; circulatory embarrassment from pressure upon vessels; or the tumor growth itself. Effusions, either hemorrhagic, purulent or clear, may also give rise to abdominal distention in association with lymphosarcoma of the ileum. The tumor mass, as a rule moderately hard in consistency, is movable. Palpation of the tumor mass does not as a rule elicit tenderness. Blood findings and other laboratory findings are not characteristic.

DIAGNOSIS.

Palpation of a movable tumor together with the subjective and objective symptoms mentioned above, with or without blood in the stool, is sufficient evidence upon which to base a tentative diagnosis. More frequently the recognition comes at the autopsy table. Early exploratory laparotomy is indicated in cases in which this condition is suspected and it is then that a positive diagnosis can be made. Roentgen-ray findings may or may not be of assistance in the recognition of the disease.

DIFFERENTIAL DIAGNOSIS.

From lymphosarcoma of the mesentery—the patient may as a rule be free from intestinal and gastric disturbances, however nausea and constipation may be present.

From other forms of lymphoma—by its local destructive capacity and by the formation of true metastases in distant organs.

From carcinomata—obstruction of the intestinal lumen is uncommon in lymphosarcoma, whereas a large majority of carcinomatous growths give rise to obstruction of the lumen. A stenosis of the lumen from lymphosarcoma when present is hardly ever due to cicatrical contraction such as is seen in carcinomas, but is usually caused by a growth in the mesentery. A small pedunculated growth may give rise to intussusception and secondary obstructions. The cachexia and anemia are more marked and more rapidly progressive with lymphosarcoma and the wasting is more marked. The course of carcinoma is slow; that of lymphosarcoma rapid. Metastasis and lymphatic involvement occur late in carcinoma. W. J. Mayo believes that in less than one-half of the cases dying from intestinal carcinoma show lymphatic involvement. In many cases enlarged lymphatic glands in the mesentery draining the involved section show no signs of malignant changes. The lymphosarcoma is as a rule larger, less circumscribed and less freely movable. In patients with suspicious signs, suspect lymphosarcoma where the patient is under 15; carcinoma when over 40. Hemorrhage is less common in lymphosarcoma. A differential diagnosis is often impossible without operation.

Sarcoma of the kidneys, ovarian tumors and cysts, neoplasms of the bladder and prostate, retroperitoneal sarcoma, and appendicitis with or without peritonitis, tuberculous peritonitis, tuberculosis of the mesenteric glands may require consideration.

COMPLICATIONS.

The tumor may compress the vena-cava, the biliary passages, the ductus pancreticus, or the ureter. Ulceration when present may lead to perforation either through the intestinal loop or into the abdominal cavity.

PROGNOSIS.

The mortality in these cases is high because they are not seen early enough by the physician. Even if operable, the mortality is high; death usually follows peritonitis, or death may be due to shock following the operation, because of the extensive resection required to eradicate the growth with its glandular involvement. According to Baltzar the duration is from ½ month to 21 months, most of the cases dying within 9 months. The prognosis is inevitably death. So far as the end results are concerned, surgical intervention yields but poor results because of the facts already mentioned. Libman warns against operation cases with extensive metastases, even for the purpose of exploration, since the fatal results may be hastened in that way.

TREATMENT.

The treatment of choice is operation—resection of the bowel with all the associated glands, with anastomosis of the bowel. In cases with extensive involvement of the glands, anastomosis around the lesions is the procedure of choice.

Authorities recommend roentgen-ray, radium and Colle's toxin.

Regardless of procedure, recurrence is almost certain.

CASE REPORT.

G. C., a white male, aged 7 years was admitted to Charity Hospital Jan. 6, 1928. The family and past history were negative. This patient gave no history of ever being ill prior to Jan. 1, 1928. On that date, about 10 A. M., the child stated that he was taken with a severe pain in the left lower abdominal quadrant. He described the pain as sharp in character which lasted about two hours, forcing him to bed. No physician was called to see him at this time. A purgative was given with good bowel movement. There was no nausea or vomiting. The patient was allowed to be up and about after about 4 hours, and did not experience any more pain until Jan. 4, when he again had a similar pain but not quite so severe as the first one. He vomited once that day. The following day the mother noticed a swelling in the left ab-

domen and she immediately called in a physician, who advised removing him to a hospital. The next day he was brought to the Charity Hospital, this being 6 days after the initial symptoms. There was no bloody stool, bowels moved daily. Physical examination showed a well-nourished white individual, apparently 7 years of age, who was in severe pain. Head, neck, and chest were negative, no glandular enlargement, no swelling of the feet or edema. The abdomen was moderately distendend, with a visible mass just below the umbilicus on the left side; the superficial veins in front and side of the abdomen were not prominent. The abdomen was thin-walled, and the liver and spleen were not palpable, the presence of free fluid not determined. The tumor mass was about 6 inches in length and 2 inches in diameter, freely movable, and apparently painless on manipulation. The mass was thought to be an intussusception. Pulse and temperature were normal. Examinations of the urine and stools were negative. Blood examination showed the white blood cells to be 10,750, of which polymorphoneuclears were 81 per cent, small mononeuclears 16 per cent, and large mononeuclears 3 per cent. Scant results were obtained from flushes and enemas. Permission was granted for an operation. Under ether anesthesia a left rectus incission was made. No free fluid was found in the peritoneal cavity. The peritoneum was normal. The omentum was bound to and enclosed the tumor mass which was freed between clamps and ligated. The ileum was constricted and twisted upon itself which was caused by the large tumor mass together with extension into the mesentery. The entire mass was about the size of an orange. The involvement of the mass was located about 24 inches from the ileo-cecal valve. In addition to the intestinal and mesenteric involvement there were numerous adjacent palpable glands. Other organs were not involved. Since the general condition of the patient was good, it was decided to do a resection, extirpating all the glands, and an end to end anastomosis using a Murphy button. The abdomen was closed in tiers with drainage. The time required for the operation was one hour and ten minutes.

The pathological description of the tumor as given by Dr. H. G. Hauser is as follows: This specimen consists of a portion of the small intestine, approximately 2 feet in length, and an associated tumor mass involving the mesentery, and the mid-portion of the longitudinal extent of the intestine. The extremities of the gut appear uninvolved, excepting for a considerable congestion in the serous coat. The tumor involves a portion of the intestine about 9 inches in length. There is a dense infiltration of the wall which is hard and nodular and which has occluded the lumen of the intestine at this point. On section, the substance of the tumor is quite firm, yellowish-white in appearance. The portion found in the mesentery has an almost gelatnous consistency. It is poorly encapsulated and appears to be infiltrating the neighboring structure. Microscopic diagnosis is lympho-sarcoma.

The patient was somewhat shocked when returned to the ward. An infusion of 700 c.c. of normal saline was given immediatey along with stimulants. The pulse grew weaker, but the patient awaked from the anesthesia and was able to talk. A transfusion of 300 c.c. of blood was given. In spite of this the patient suddenly took for the worse and died two hours later.

DISCUSSION.

Dr. Alton Ochsner (New Orleans): Dr. Miller's review of the literature has been so thorough that there is not a great deal to be said. It is interesting, however, to note that two cases of this unusual condition have been observed in Charity Hospital in a period of three years and reported within that time, the other case reported by Dr. Loria two and a half years ago.

Possibly one of the reasons who some of these cases are diagnosed late can be understood when we realize there is no obstruction but an early invasion of the musculature so that a dilitation is a primary condition rather than stenosis. In other forms of malignancy in the intestine, fortunately, stenosis is an early occurrence. In the lymphosarcoma, especially due to the involvement of the muscular layers, dilatation is a primary factor; later, as the growth progresses, stenosis sets in. It is interesting to note also that the growth extension is around the gut involving the layers of the gut, seldom the peritoneum; the peritoneum is involved later. These cases ulcerate late, which accounts for the lack of blood and other findings in the feces.

The mortality Dr. Miller gives is extremely high because of the fact that the cases are not diagnosed, and reviewing the cases in the literature I was unable to find any cases in which a satisfactory result was obtained if the patient recovered from the operation. No doubt lymphosarcoma occurs more frequently than we think at the present time. If more cases were reported we might have a better idea of the proper incidence of the condition.

Dr. F. L. Loria (New Orleans): About three years ago I had occasion to study the literature on this subject—after having come across a case in the Charity Hospital, while I was there as an interne. The subject interested me so much that I thought I would look up the literature to see what could be found. At this time I collected 115 cases to which I added the one I reported. These 116 cases I studied statistically from many angles. However, the points of interest to me were; first,

the age incidence of the disease, scondly the portion of the intestinal tract most frequently affected, and thirdly, the types of sarcoma that might affect the gastro-intestinal tract, and noting the type or types which predominated.

To begin with I noticed that while carcinoma is essentially a disease affecting the large intestine, sarcoma affected the small intestine more frequently. The proportion of sarcoma to carcinoma in this region was 3 to 1. However, the proportion of carcinoma to sarcoma, in the gastro-intestinal tract, is about 6 to 1. There can be no doubt that primary sarcoma of the bowel is a rare condition, but a few men believe the disease is perhaps somewhat more frequent than the figures would lead one to think.

The greatest number of these cases are found between the ages of 20 and 40 years, the next greatest number up to the tenth year. Thus, as in sarcoma involving other structures of the body, that involving the gastro-intestinal tract is also found in the early years of life. Carcinoma is, on the other hand, found in the later years of life.

In the group collected the small intestine predominated in the number of times it was found affected. The ileum was the seat of the disease in the greatest number of cases. The jejunum and duodenum came in order. The number involving the large intestine has been relatively smaller. However, the ileo-caecal region was found frequently affected.

Seventy-eight per cent of the cases I collected were of the round-cell and lymphosarcoma type. Of these the round-cell type predominated slightly. The remaining 22 per cent included spindle-cell sarcoma, melano-sarcoma, mydosarcoma, etc.

In my report, at that time, I included those growths found in the gastro-intestinal tract between pylorus and rectum and excluding these two latter structures.

EFFECT OF MORPHIN ON FUNCTION OF NORMAL AND PATHOLOGIC KIDNEY—The work reported on by Sisk and Beyer, was undertaken primarily for the purpose of determining the safety of administering morphin sulphate in quantities sufficient to insure comfort to patients who had been subject to operations on organs of the genito-urinary tract, and who had some impairment of the kidney function. The results were sufficiently constant to justify the following conclusions: 1. Morphin sulphate, given in the usual therapeutic dose and repeated every four to six hours until the patient develops toxic symptoms does not impair the function of the normal kidney. 2. Urologic surgical patients may be given morphin sulphate in the usual therapeutic doses without fear of impairment of renal function.—J. A. M. A., 90:2082, 1928.

EXTENSIVE OSTEOMYELITIS WITH MASSIVE RESECTION.*

OCTAVE CHARLES CASSEGRAIN, M. D.,†

NEW ORLEANS.

Osteomyelitis, up to the present writing, has furnished one of the sad chapters in the history of Medicine. That it has furnished a chapter, fraught with interest, however, no one who has read some of the voluminous literature written on the subject, will deny. Chiefly, from the technical standpoint, the so-called chronic cases have had the greater interest for me. This is so for two reasons:

1. The true acute hematogenous osteomyelitis is unfortunately seen much less frequently by the surgeon than the chronic types.

2. The chronic cases with their large sequestrum, their extensive degree of bone involvement, their prolonged duration both before and after treatment, are cases which present real problems of judgment, decision, technique and on whose correct solution depends to a great degree, the economic, mental and physiological welfare of the patient.

I admit readily that chronic osteomyelitis should not exist, that if the early cases were properly diagnosed and treated the incidence of chronic osteomyelitis would be greatly lowered, if not altogether abolished.

I earnestly believe that by repeatedly pounding into our undergraduates and young practitioners the early signs and symptoms of acute osteomyelitis and its early treatment, we shall in time succeed just as we have succeeded in teaching them to recognize acute appendicitis, and not to purge routinely every acute case of abdominal ache! And just as we have succeeded in teaching them to appreciate and recognize the early signs of uterine malignancy.

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As a great preacher once said, however, "Errare humanum est," and while preaching and teaching the recognition of acute osteomyelitis, it is well indeed for us to acknowledge that to err is human; that our campaign of education has not yet borne full fruition, that chronic osteomyelitis is still too frequently seen, and since these conditions exist consider the remedy.

It is not the purpose of this paper to review the etiology, diagnosis and treatment of acute osteomyelitis. This has been done repeatedly and ably in this Society by my former teachers, Drs. Matas, Gessner, Cohn, Maes, Fenner and others. My purpose is rather to again bring out the difficulties of early diagnosis, the reason the diagnosis is so often missed, and then describe two cases of extensive bone involvement in which conservative radicalism, if you will allow me such an expression, was used with complete success.

Back in 1921, in discussing a paper on the early diagnosis and treatment of osteomyelitis presented before this body by Isidore Cohn, Professor Matas said the following. I am now quoting him almost literally:

"That the diagnosis of acute osteomyelitis in its incipiency is fraught with perplexities is only too well proven by the large number of cases that come to operation long after the destruction of the bone and irreparable damage have occurred. The most frequent source of error lies, no doubt, in the confusion of a primary epiphyseal infection in close proximity to the joint on the one hand and acute infection of the joint itself, as most often occurs in acute inflammatory rheumatism on the other. A careful examination, however, will demonstrate that the area of greatest tenderness and pain on pressure is not in the joint, but outside of it, and that the pain and tenderness in osteomyelitis radiate away from the joint and not towards it, and furthermore, that in arthritis the infection is usually polyarticular. There are other conditions that may simulate acute osteomyelitis, especially in children who are the chief victims, namely, infantile scurvy, gonorrheal arthritis, acute arthritis deformans, and in one of my cases cellulitis."

"From all this, it is easy to understand that reasonable confusion and doubt should often arise even among experienced men and that practitioners often prefer to test the diagnosis therapeutically rather than surgically. It is easier to try drugs before deciding upon an operation. This test of the diagnosis is often spoken of as giving the patient the benefit of the doubt, when in reality giving the patient a real benefit of the doubt would be a prompt exploration."

How timely, then, these words of the old master, spoken with all the wisdom of his vast experience, and how timely now. How closely does he demonstrate his knowledge of human nature when he speaks of finding it the easier way to give the patient "the benefit of the doubt," a benefit which I doubt not is often insisted on by both parents and patients and to which the practitioners agree reluctantly instead of forcefully insisting for exploration.

And this business of giving the patient the benefit of the doubt, is still being practiced today, less and less it is true from year to year, but still too often to be reassuring. For when one realizes that some of these patients suffering with chronic osteomyelitis remain at times for months under the physician's care, that from the time of onset until the time of discharge periods as long as twelve months may elapse and several operations performed; I recall a case where five distinct osteotomies were done, that deformities at times tremendously crippling may persist, one is appalled at the quality of this disease which exacts such heavy toll from its victims, and stimulated to greater efforts to lessen its morbidity.

And here I wish to state most emphatically that whereas in the acute cases all that is needed is to explore promptly, relieving periosteal tension, then drilling one or more

openings in the bone to release the pent up infection, in the chronic cases and especially those involving the long bones, one must not be satisfied with simply removing the necrosed fragments. The danger here lies, not in the removing too much bone, but always in not removing enough. The timidity of the operators is responsible for the repeated operations and the long periods of disability which these unfortunate sufferers have to undergo. They are in their pitiable state:

1. Because the original operation was too long delayed, and,

2. When they are finally operated, the operation is not extensive enough to fully meet the requirements.

In my practice I have now made it a rule not only to remove all the dead bone I am able to demonstrate as dead, but to go well into the healthy bone and remove as much of it as I have the nerve to do.

In both of the cases I wish to report tonight, very nearly the entire shaft of the bone was involved, and because of this extensive bone involvement a complete subperiosteal excision performed so as to be sure of not leaving any part of the diseased bone.

Case 1. M. D., white male, aged 17 years, stenographer, was admitted to Hotel Dieu January 4, 1925, complaining of a running sore over the right collar bone.

Present Illness: Five and a half months ago, one afternoon, he was taken suddenly ill with chills, high fever and extreme pain in the right side of his neck just above the collar bone. The day before he had played baseball nearly all day, under a hot sun, and had been struck in the neck by a foul ball. Six days after the onset of the trouble a large abscess of the neck was incised and drained. He left the hospital in nine days and he had felt fairly well since his discharge, except that the wound would not heal, has been draining ever since and that on two occasions small particles of bone escaped from the wound.

Family history is negative. Past history: Usual diseases of childhood—pneumonia at 4 years—appendix removed 1½ years ago—tonsils removed 4 years ago. Five months ago had a large abscess in the neck drained. Cultures made in the Presbyterian Hospital at that time showed infection to have been due to the staphylococcus aureus. Habits and Venereal History: Negative.

Physical Examination: Thoroughly negative except for evidences of an old McBurney scar and a small sinus over the center of the right clavicle.

Laboratory Findings: Urine—Wassermann—and total count showed nothing abnormal. The roentgen-ray report described an osteomyelitis of the entire right clavicle.

The day following his admission, January 5, under local anesthesia—½ per cent novocain with 6 minims of adrenalin to the ounce added—an incision was made over the right clavicle down to and through the periosteum, which was found much thickened. Periosteum peeled back with periostetome and the clavicle sawed through the center with a Gigli saw. Both halves were then dissected and freed from their attachment to the sternum and acromon respectivey and removed. Iodoform pack inserted and incision closed with chromic No. 2 catgut and silkworm gut.

From Jan. 5 to Jan. 13 when he was discharged patient had an uneventful convalescence, temperature rising to 100°F the day after his operation but coming down to normal the following day and remaining down to normal thereafter. He was discharged from the hospital eight days after his operation, and from the office sixteen days later, healed.

There were several interesting facts about the case:

1. The clavicle, the bone affected, is one of the rarer bones to become involved in osteomyelitis. Evarts Graham states that at St. Mary's Hospital for children in New York from 1914 to 1924 only one case of acute osteomyelitis of the clavicle is recorded, and the same author quoting Gau of Lexington, states that in 58 cases there were only 4 involving the clavicle.

2. Trauma, contrary to the common rules, seems to have played an important part as a causative factor in this case.

3. This resection of the clavicle, which was the first one I had done, is easily performed under local.

4. By removing all of the diseased bone, and in this case none could have been left behind, the patient's stay in the Hospital

was limited to eight days and his total post-operative period of disability limited to twenty-four days.

5. Contrary to accepted teachings, the clavicle does not seem to be an essential bone in preserving the physiology of the shoulder joint. Certainly in my case, there was no apparent defomity, no drooping of the shoulder, no loss of contour and no limitation of motion long before the bone had regenerated.

Case 2. Freddie Jackson, aged 5 years, colored male, was admitted to the Charity Hospital on the afternoon of May 8, 1927, complaining of fever and a swollen leg. Present Illness: Began 6 days ago when the patient first began to complain of headache. At this time his mother noticed that he felt feverish. The next day he began to complain of pain in his leg, and the leg began to swell. His right eyelid also began to swell at this time and gradually increased until the eye became closed. The swelling in the leg and the fever increased day by day, so the mother brought him to the hospital. Past History: Irrelevant. Physical Examination: A well developed and nourished negro child lying in bed apparently very ill. The right eyelid is completely closed and there is a discharge of pus between the lids. There are some crusts present in the nose and an exudate on the posterior pharyngeal wall involving the tonsils. The pharynx is markedly congested. Outside of a rapid heart, examination of the chest is negative. Examination of abdomen is unsatisfactory due to a marked rigidity of the abdominal muscles. Genitalia negative. Extremities: The right leg is enormously swollen and shiny. It is very tender on palpation and an area of fluctuation is found on the right lateral aspect 4 inches above the ankle. There is an area of denuded skin surface over external malleolus and a large unruptured bulla. Reflexes are present. Temperature on admission 103°F by axilla. Pulse 128, respiration 28.

Laboratory Examination: Blood 21,500—neutrophiles 88 per cent. Urine negative. Throat and nose cultures—negative for diphtheria. Smear from the eye showed pus cells and gram positive cocci.

Skiagraph of the leg taken on admission was negative for fracture. Skiagraph of the sinuses taken on admission showed an opacity of the right maxillary sinus.

First Operation: Morning after admission.

Under ethylene gas anesthesia an incision was made on the external, lateral surface of the right leg about 4 inches above the ankle, at the site of fluctuation. Pus poured out freely from the soft structures, so multiple incisions over entire leg were made and four Dakin tubes inserted.

Pus sent to Pathological Department. Cultures: Staphylococcus aureus.

This little boy on admission had, besides the infection of his leg, a severe infection of the face and sinuses. The denuded area over the malleolus, the unruptured bulla, the extensive cellulitis present 6 days after the onset of his illness masked at first the true nature of his trouble. He was so sick moreover, that there was no opportunity to explore the bones at the operation. The problem was to get in, evacuate the pus and get out as quickly as possible.

Two days after his operation he was seen in consultation by Dr. John Irwin, who reported that he had pus in the middle meatus and that his anterior group of sinuses were involved, and outlined the necessary treatment.

Following his operation the temperature did not drop as I had expected.

From May 8, the day of his admission, until May 29 he ran a septic temperature fluctuating from 99-2/5°F to 105°F, the lowest maximum daily temperature during this time bein 102.5°F.

On May 27 another skiagraph showed: Necrotic area in upper 1/3 of fibula and apparently in lower 1/3 with considerable tumefaction of the soft parts. Dressings obscure view.

Another picture taken 12 days later to see if the necrotic process had increased showed no change, so on the following day, June 9, the boy was subjected to his second operation, as follows:

The incision was made on the external side of the leg to explore fibula. The periosteum covering the upper and lower third of the fibula was found markedly thickened and inflamed and the surrounding tissues necrotic. All necrotic tissue was removed with knife, curette and cautery. Two small openings were made at both extremities of shaft. Wound was packed with iodoform gauze and left wide open.

Following his operation the temperature remained elevated for two days. By June 13, four days later, it had dropped to 99.5°F, and from then until July 23, when he was subjected to his last operation, it fluctuated between normal and 100°F, twice going to 101°F.

On July 15 a last picture taken showed an osteomyelitis involving the entire shaft of the fibula.

So on July 23 the fibula was exposed under ethylene anesthesia. Periosteum incised and a sub-periosteal excision of fibula done by first dividing the bone through its center, and then removing each half separately. Because of the long standing infection, and the present condition of the tissues, wound was left wide open and packed with iodoform gauze.

Temperature rose for two days following operation, then gradually dropped, and from July 29, six days after operation, to August 15, the day of his discharge, it remained normal. He was dressed three times a week at my Clinic from August 15 to September 21, at which time he was discharged completely healed. The second case demonstrates thoroughly some of the difficulties that beset the practitioner in arriving at a diagnosis, and the both cases I am sure proved that the period of disability following operation can be materially shortened by boldly making certain that no diseased bone is left behind.

The follow up on both cases has been extremely satisfactory. At my request the little colored boy came to my Clinic two weeks ago to be examined. There is no deformity and no functional deficiency of the operated leg. He was able to stand on the leg and skip and jump at will. Palpation revealed the presence of a new fibula and to confirm this physical finding a skiagraph was made, which, as you see, shows the fibula regenerated.

The first case has proven to be equally satisfactory. About a year and a half after his discharge, examination both physically and by the roentgen-ray showed the clavicle regenerated, and absolute normal function of the arm and shoulder of the operated side.

Conclusion: Let me emphasize this point. The best way to treat osteomyelitis is to recognize the early signs of the disease and by prompt drainage avoid the actual destruction of the bone; for when this destruction has once occurred the surgeon has to face a battle which will at times tax his patience, resourcefulness and daring to the utmost.

DISCUSSION.

Dr. Alton Ochsner (New Orleans): Dr. Cassegrain's paper is especially interesting because of the type of case reported.

The treatment of osteomyelitis is surgical and surgery is indicated immediately. Murphy has once said "that the expectant treatment of acute osteomyelitis consists of expectant "mortis."

Another thing I wish to emphasize is, however, massive resection of bone in osteomyelitis should not be done on those bones in which weight-bearing is a factor. Beye, of Iowa, reported five cases, in some three hundred cases. Of these cases, in four in which massive resection was done in the tibia, lack of regeneration occurred in all; regeneration occurred only in the one femur case.

I had the opportunity of seeing four cases in the Schmeiden's Clinic. It happened in these four cases the tibia was involved, massive resection was done and in three cases no sign of regeneration was apparent after four years.

The treatment of osteomyelitis in weight-bearing bones should be conservative. There is too much danger of infection especially in lifting the periosteum so that the resultant infection may destroy the chances of regeneration.

Dr. E. D. Fenner (New Orleans): I cannot keep still after hearing a paper on osteomyelitis, because those of us who have had to deal largely with the surgery of children, know that ostemyelitis is a most common and horribly mutilating and frequently fatal disease.

We all know that osteomyelitis of the clavicle is a rare condition in comparison to osteomyelitis of other bones—a blow from a foul ball might explain a rotten bone, even here.

I want to say that while it is true that the destructive effect of osteomyelitis is less likely the earlier treatment is instituted, it is not a fact that immediate treatment will always prevent disastrous results. I have in mind two or three cases in whom infection had not existed for more than 36 hours, and for one of whom I got special permission on Sunday to operate in the emergency room of the Hospital clinic, in the hope that I might arrest the progress of the disease. An emergency roentgenogram showed no sign of infection. We operated in an effort to save the femur, but the infection extended and involved both hip joints and the tibia in one limb. The patient did recover, but after months of desperate struggle. It was not due to any failure on our part in instituting treatment.

While you certainly cannot operate too soon, that does not absolutely protect the patient from a spread of the process. It certainly improves his chances of having the infection arrested.

D. O. C. Cassegrain (closing): First, I wish to thank the gentlemen who have discussed my paper. The experience of Dr. Fenner proves all too

clearly what a serious disease osteomyelitis is. In his case the necessary steps were taken early for the eradication of the disease, and yet, early as he was, he was too late and the process went on and infection spread. Lessons such as these should make us all more alive and careful in our diagnosis.

The value of early diagnosis and early treatment we cannot over emphasize. We all have our failures, but I am convinced that by following the routine of early diagnosis and early exploration we will reduce our failures to a minimum and will be well rewarded in the long run.

Dr. Ochsner brought out a point about massive resection in weight-bearing bones. In this type of case we should hesitate in performing a massive resection. The only excuse for doing massive resection is to shorten the period of the disease. Now if a patient will have to wear orthopedic appliances or be kept in bed for a prolonged period of time as would necessarily be the case if a major weight-bearing bone was excised, the very purpose of the operation might be defeated. Massive resection is applicable chiefly to those bones which do not carry the major portion of the body weight for the chief purpose of lessening the period of disability. When these bones are not involved it is probably the operation of choice.

Osteomyelitis is a very serious disease. It is very difficult to control, and before embarking on an operation the case should be studied thoroughly and the advantages and disadvantages of any operative procedure worked out very carefully.

HEALTH AUDITS—Other items in the list of physical impairments found are merely suggestive. Sixteen per cent of the clients had flat feet, seventeen per cent had frequent colds, twenty-two per cent had deflected nasal septa, forty-one per cent had heavy dentistry, eight per cent had varicocele, and ten per cent had chronic skin affections, such as acne. This seems strange material with which to do life extending. Men have died and worms have eaten them, but not from flat feet. — Clendening, Logan: American Mercury, 15:145, 1928.

THE IMPORTANCE OF PARA-NASAL SINUS DISEASE IN GENERAL DIAGNOSIS.*

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This may seem an unusual subject for a general surgeon to bring before this section. But all general surgeons are called upon at all times to make diagnosis in almost every type of case, especially the puzzling ones, and as we all wish to analyze our cases in such a manner as to overlook as little pathology as possible, I am impelled to branch a little out of the way of our usual discussions and bring to your attention a field which I am inclined to believe has been sadly neglected by many of us in the past and at present.

In this day of many specialties, there is a growing tendency for each specialist more and more to confine his thought solely to his particular field of the human organism and fail to consider first the patient as a whole. There must be some one in the field of medicine that can undertake the problem of diagnosis with an unbiased line of thought, and, in my opinion, the general surgeon should be one of those who does so.

None of us derive any satisfaction from having our cases return after operation with the same headaches and backaches they had before we did a most perfect pelvic or abdominal operation, and on second survey possibly find an old chonic paranasal sinus disease to be causing most of the symptoms present at the first examination. Neither are we pleased when we have removed a suspicious gall bladder and appendix for relief of some digestive disorder to have the patient continue to complain of the same symptoms until we finally discover a focus of infection in the sinuses or tonsils, and have the patient get relief when proper treatment is given.

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*Read before the Mississippi State Medical Association, Meridian, May 8-10, 1928.

Yet we have had these very things happen, and each time we are more impressed. We are not disparaging abdominal and pelvic or any other kind of general surgery, but we do believe that we should examine surgical cases more carefully from every angle. When we find infected sinuses, tonsils or teeth, and still believe a general surgical procedure is indicated, this surgery should be done, but the patient should be informed of the other conditions existing and impressed as to the necessity of having them treated in the future.

The object of this discussion is to emphasize a few important points concerning para-nasal sinus disease by illustrative cases and to bring more forcibly to your attention the great need for the treatment of cases with real pathology in the nasal sinuses.

The multiplicity of symptoms confronting the earliest workers was confusing, and only of late have detailed pathological studies made clear the cause of this perplexing problem.

But fifteen years ago when I finished medical school and hospital, the consideration of pathology in the nasal passages was practically restricted to the symptomatology and treatment of acute conditions, such as acute blocking of the frontal sinus, abscess of the maxilliary antrum, obstruction by nasal polyps, deviation of the septum, etc. We were never told of the remote symptoms which constantly arise from chronic disease in the sinuses, of the many and complex reflex disturbances which can arise from this source with few direct symptoms to give the diagnostician a clue as to the real source of the disturbance. As a focus of infection in the production of arthritis and other clinical pictures of chronic sepsis, the sinuses were barely mentioned. Whether sinus disease existed at that time to the extent it does today, I am not prepared to state, but from personal observation I am convinced that the number of cases has very much more than doubled since the beginning of the influenza epidemic in 1918.

One hears the statement very often that sinus disease is a fad, that very few are benefitted by sinus operation; that every case that goes to the rhinologist is reported by him to have sinus disease. There is much truth in these statements, and the chief reasons for the sinus operation having such a reputation are: first, operations having been done on cases where it was not needed; second, improper or insufficient post-operative care and follow-up treatment; and third, lack of complete diagnosis before operation and the presence of unrecognized pathology elsewhere.

In a review of all cases of sinus surgery done in our clinic in the past several years, we find the group of cases showing the highest percentage of cures from the sinus operation are those in which the diagnosis of sinus disease was made or suspected by the general surgeon in charge of the case, and who referred the case to the rhinologist for treatment. The group of cases having the largest number of poor results are those who had gone directly to the rhinologist for treatment without first having had a careful and thorough general diagnosis.

I am convinced that far too many general practitioners and surgeons are not on the alert for symptoms of sinus disease, and pay too little attention to the nose and throat, thus overlooking many cases that could get prompt relief from distressing symptoms by conservative sinus surgery. And these cases often are treated for years without results because their symptoms are wrongly attributed to other causes. I am also convinced that an equal number of cases are operated on by the rhinologist for symptoms attributed to sinus disease, but which are due to other causes.

In order to correct these errors, as far as possible, it is essential for the specialist to work in co-operation with the general surgeon and with the internist. Hardly any case should be operated on until after

a careful and thorough general diagnosis has been made.

There are many places in the body in which chronic infection may be hidden: the tonsils, teeth and gums, para-nasal sinuses, prostate, cervix uteri, gall bladder, appendix, rectum, etc. Any one or more of these locations may be the source of absorption of infection or toxins. We feel that every case presenting clinical evidence of focal sepsis should have the benefit of careful investigation of all of the common locations for chronic septic processes. The finding of one source of infection does not mean that there are not other foci, and all should be considered before a complete diagnosis is made.

With the limited time at my disposal, instead of going into a detailed discussion of symptoms, I shall briefly give the histories of a few selected cases that illustrate some of the symptoms and the importance of finding and treating cases with chronic disease in the para-nasal sinuses.

Case 1. This case represents an oversight on the part of the writer as well as many other reputable surgeons and diagnosticians into whose care she came before the chief source of her trouble was found. Mrs. F. C. H., age 28 years, was first examined in 1920, at which time the chief complaint was general nervousness, insomnia, soreness and stiffness of the muscles and joints, frequent attacks of headaches and sore throat, and occasionally a little fever. General examination showed hypertrophy and chronic inflammation of both tonsils, two abscessed dead teeth, and a chronic endocervicitis. She was advised to have the infected teeth and tonsils removed, and to have cautery treatment of the cervix. The case was not seen again for four years, and the history during this time is interesting. Shortly after the initial examination the dead teeth were extracted and then the tonsils were removed. Not the slightest relief was obtained. A few months later she was seen by another physician, who did a dilatation and curetage and cauterized the cervix. A few months later she had obtained no relief, the nervous symptoms had increased, she could not sleep, her joints were beginning to swell and becoming more painful. Her neurotic symptoms became so marked and her mental symptoms so pronounced that a definite pyschosis was diagnosed and she was committed to an insane asylum, where she remained eleven months. During that time the mental symptoms gradually improved, but the arthritis grew steadily worse and she was sent home. After having been at home and most of the time in bed for almost a year, she again came into the writer's service. The patient was practically bed-ridden, the knees, ankles, wrists, fingers, and elbows were swollen, tender, and extremely painful. She was admitted to the hospital in August, 1924, and a careful general survey made. The only positive findings aside from the arthritis was a large boggy uterus, a large soft cervix and a persistent muco-purulent vaginal discharge. Blood culture was negative as well as were the results of all routine laboratory procedures. The uterus and cervix was thought at that time to be the focus of infection and a total hysterectomy was done. The patient made an uneventful recovery from the operation and was followed for over six months on various forms of medical treatment. No relief of symptoms was obtained from either the operation or treatment. The patient at this time was having considerable digestive disturbance, occasional attacks of colic with slight icterus, and I was about ready to attack the gall bladder as the source of infection, although at the time of operation the gall bladder felt normal to palpation. In the course of a general examination at this time, I noted a slight post nasal dripping and a deviated nasal septum. A roentgenogram of the sinuses was ordered and there was found definite evidence of disease in the ethmosphenoidal region. The patient was then referred to the rhinologist on our staff, who operated on the sinuses. The results were almost immediate and would have been difficult for me to believe had she not been under my own observation. Within one week the swelling of the joints was reduced over fifty per cent and steady improvement followed. Today, nearly two years following the sinus operation, this patient is entirely free of all active symptoms. There is a slight limitation of motion in the elbows and some stiffness in the ankles as a result of the prolonged arthritis. The patient is free of all pain, sleeps well, does her own housework, drives her car, and is a most grateful and satisfied woman. This illustrates in a striking manner the fact that one patient can have numerous foci of infection and not get results from treatment until every focus has been eradicated. Had we studied this case in the beginning, as we study our cases today, this sinus condition would have been noted and treatment given long before it was, and probably have relieved her of several years of suffering.

Case 2—Mrs. H. J. C., aged 41 years, was admitted to the hospital on May 11, 1926, complaining of headaches, backache and dragging pain in the pelvis. She had been married for sixteen years, had had four children, the youngest being six years of age, and had had no miscarriages.

The past history was negative except that she had been a headache sufferer all her life and that she had had a severe attack of mumps at the age of 17 years. Beginning five years ago she had had daily fever for over two years. She had been sent to the West for one year without benefit. She had never had more than a little cough and expectoration. For the past two years she had had severe attacks of headache every two or three weeks lasting from 48 to 72 hours and often requiring morphine or codeine for relief. Her eyes had been examined and glasses fitted several times without relief of the headache. She also had been under the care of two different rhinologists who reported no sinus trouble and nothing in the nose to account for her headaches. The patient stated that no roentgen-ray examinations were made. All of the molar teeth had been removed, also the tonsils, without benefit. In the previous few months she had had indigestion, dizziness, and fainting spells, with gaseous distention especially after supper and during the night. She had had much nausea but no vomiting. She stated that she was very nervous and did not sleep well. There was no history of an attack simulating appendicitis or biliary colic. The examination of the nose and throat and mouth was negative to inspection except for the appearance of the posterior pharyngeal wall which was red and irritated. Temperature was 99 4/5, pulse 82, blood pressure 130 systolic, 80 diastolic. Heart and lungs were negative, reflexes normal, abdominal examination negative, pelvic examination showed partial prolapse and retroversion of the uterus, lacerated perineum and a cystocele. The routine laboratory work including a Wassermann was negative. This patient had been referred for pelvic surgery and the question to decide was whether her symptoms were all from the pelvic pathology or from some other condition. Radiographic study of the sinuses was made regardless of the negative reports she had had from specialists in this line of work and a diagnosis of bilateral ethmoiditis and sphenoiditis was made. She was referred to the rhinologist on our staff for surgical treatment. A submucous resection, partial exenteration of ethmoids and drainage of sphenoids was done. This patient has been followed since that time and has had practically complete relief from headaches, no more fever, and has gained enormously in weight. Within a year from the date of the sinus operation, she returned for pelvic repair and is now completely relieved of all symptoms. This is a case which shows the necessity for making a complete diagnosis. Had the sinus condition been ignored and only the general surgery done, we would have had a very dissatisfied patient still suffering from headache and most of the original symptoms.

Case 3. This case was referred to us as a gall bladder or stomach case, the chief complaint being headaches and vertigo associated with an irregular digestive disorder and soreness in the right side of the abdomen. J. T. M., aged 57 years, male, was admitted July 20, 1927. He had had typhoid fever 25 years ago followed by attacks of chills and fever at irregular intervals for four years. No serious illness since that time until the onset of present trouble. Had lost 25 pounds in weight during the past two years. Suffered with present symptoms for the past four years with only short intervals of relief. At first his chief symptoms were dizziness, intense nausea, and during the attacks the vertigo at times would be so intense that he would fall if he suddenly turned his head. The pain and soreness has gradually localized to the right side of the head and face, especially behind the right ear. His hearing was impaired. For months he had been taking a dozen or more aspirin tablets a day and had been through many nights without any sleep. He had no appetite and what he ate caused gastric distress. He had a constant soreness in the whole right side of his abdomen, more especially under the edge of the ribs on the right. In addition to being treated by numerous physicians, he has been under the care of a rhinologist at regular intervals since his trouble began and has had the right antrum opened and frequently irrigated. All his teeth had been removed. Examination showed a well developed man, fairly well nourished, with slight icteric tint to the skin. Temperature was normal, blood pressure 185 systolic and 120 diastolic, pulse shows an occasional irregularity. Tonsils were small, with marked redness of the posterior pharyngeal wall and a mucopurulent drip from the posterior nares. There was no mastoid tenderness and the ear drums were normal. Reflexes were normal. There was moderate cardiac hypertrophy, but no murmurs. The lungs were negative; the liver edge was palpable and slightly tender. The gall bladder region was tender; the abdomen otherwise was negative. The prostate and rectum was negative except for the presence of hemorrhoids. A general blood examination including Wassermann was negative. The urine showed 1/15th of 1 per cent by weight of albumin, a few hyalin and granular casts. The blood chemistry showed urea nitrogen 18.9, creatinin 1.7, sugar 118. Roentgen-ogram of the thorax was negative. Roentgen-ogram of the gall bladder after intravenous injections of tetraiodophenolphthalein showed normal filling and no shadows suspicious of stone. Gastric analysis and radiological examination of stomach and intestine gave negative results. Roentgenograms of the paranasal sinuses showed evidence of chronic inflammation in both maxillary antra, posterior ethmoids, and sphenoids. Here we had a man with

chronic nephritis and hypertension, a chronic myocarditis, an enlarged tender liver, and evidence of chronic sinus disease. Previous surgery in the nose had given no relief, but evidently had not been sufficient. The case was referred to the rhinologist for surgical treatment. A submucous resection, partial exenteration of ethmoids, drainage of sphenoids, and a large opening made into both maxillary antra was done. The patient made an uneventful recovery from the operation and was kept in the hospital for ten days for observation. On discharge, the urine showed a faint trace of albumin and no casts, the blood pressure had come down to 150 systolic and 90 diastolic, the soreness over the liver region was greatly improved, the headaches and vertigo were relieved. Two months later this case reported having had only one slight attack of headache and vertigo, no gastric symptoms, and was feeling better in every way. Six months later he reported no symptoms of his old trouble, digestion perfect, gaining weight steadily and the blood pressure and urinalysis were still normal.

Case 4. This case illustrates the fact that a chronic suppuration in the maxillary antrum can produce a low grade daily fever over a long period of time with very few localizing subjective symptoms. She was referred to me with a diagnosis of a chronic pelvic inflammatory process. Mrs. S. P. D., aged 23 years, was admitted November 12, 1927. Past history—typhoid at age of 12 years, tonsillectomy 5 years ago, otherwise nothing of interest. Her first child was born 8 months ago, normal labor; a few days after confinement she began having fever and had had fever every day since with very few exceptions. Most of the time it was 99° to 100° but occasionally went to 101°; it was highest in the afternoon and evening. The temperature was not affected by her staying in bed and was not increased by ordinary exercise. She suffered general aching and tired feeling most of the time with no localized pain except for persistent backache, some lower abdominal soreness and occasional severe headache. She was nursing the baby and although she has lost very little weight, she had not been able to gain her strength. There was no digestive disorder, no urinary symptoms, ate and slept well. A slight irritation in the throat and a little cough were present. She had been given quinine and many other medications during her entire illness without relief. The most careful general examination failed to reveal anything to account for the fever. Routine blood and urine examinations were negative, the pelvic organs were normal and the lungs were negative to physical examination and roentgen-ray examination. There was an abnormal redness in the throat suggestive of a dripping from the posterior nares. Radiographs of the sinuses showed an opaque left antrum. The case was referred to our rhinologist and the antrum was drained. It contained muco-purulent fluid. The temperature dropped to normal on the second day following the operation and has remained normal ever since.

Case 5. This case again illustrates that numerous foci of infections may be present in the same patient and the necessity of a thorough clean-up before all symptoms can be relieved. Mrs. E. W. H., aged 50 years, was first admitted January 7, 1924, with an acute gall bladder. The patient was acutely ill and simple drainage of the gall bladder with the removal of numerous stones was done. There followed an uneventful recovery and discharge from the hospital. Six months later she was readmitted complaining of severe headaches and general malaise. Roentgen-ray examination of the sinuses revealed an infected antrum and chronic bilateral ethmoiditis. This was relieved by surgical treatment. One year later she was readmitted, her headaches had been relieved but she still complained of stiff joints and general aching. A pair of small submerged infected tonsils were removed. Patient has been seen several times over a period of two years and reports complete relief from all troublesome symptoms.

Case 6. This case illustrates in a very striking manner a remote fatal complication that may occur, although fortunately it is very rare. Mr. C. B. A., aged 39 years, a banker, was admitted February 4, 1928. He became ill 10 days before admission with an ordinary cold, slight fever and cough. He did not go to bed or call a physician until five days before admission at which time his wife called in a doctor against his wishes. He was complaining of pain in the back and of the head and neck, also of intense frontal headache. His family physician states that at this time he found the patient with no fever, that it appeared to be a mild case of influenza and that he advised his patient to go to bed and prescribed the usual medication. Conditions remained about the same with the chief symptom, headache and pain in the back of neck and head, persisting, until the morning of the day he was brought to the hospital. On that morning, the frontal pain was so severe that a hypodermic of morphin was given which was followed by vomiting and then the patient went into a semi-comatose state. Examination showed a well developed, well nourished middle aged man in a state of semi-coma. He could be made to answer questions but would immediately drop off into a deep sleep. Temperature was 99 4/5°, pulse 84, blood pressure 130 systolic, 85 diastolic, respirations 16. Pupils were equal and reacted to light. Eye grounds were normal. The nasal septum was deviated to the left and a profuse

muco-purulent discharge was present in the nose and in the pharynx, the throat was very red. Examination of heart, lungs, and abdomen was negative. Reflexes were present and not exaggerated. The skin was sallow, the features pinched, and the patient appeared acutely ill. There was no rigidity of the neck. Urinalysis was negative, leukocytes 16,500 with 87 per cent polynuclear. Blood Wassermann was negative, cerebro-spinal fluid negative, blood chemistry normal. Radiographic films of the sinuses shows an opaque right frontal, right antrum and left sphenoid. On account of the violently acute sinus condition, palliative treatment was decided upon and the patient was apparently improving until the morning of the 4th day after admission when he suddenly died. The autopsy findings were extremely interesting. There was a large abscess in the center of the left lobe of the cerebellum into which there had been a recent hemorrhage. There was also an acute empyema of the right frontal sinus. The left sphenoid contained dark muco-purulent material. The antra were not explored. The cerebellar abscess was apparently a metastatic process from the sinus disease and was the direct cause of death.

CONCLUSIONS.

I believe that the average general surgeon of today studies very carefully the patient presenting obscure symptoms from almost every viewpoint except that of the rhinologist; that too many general surgeons do not appreciate the vast number of symptoms and the great amount of constitutional disturbance that can arise in certain cases from disease in the para-nasal sinuses; that too often he overlooks real pathology in the nose. In our clinic, the number of cases of good results from sinus surgery so far outnumbers the failures, that we are constantly on the lookout for the presence of disease in this region in all of our cases. We believe that if more general surgeons will come to appreciate the importance of this subject, that many more cases can get relief from sinus surgery and that there will be fewer failures.

DISCUSSION.

Dr. Lucien S. Gaudet (Natchez): This is too valuable a paper to allow to go by without any discussion. I happen to be an oto-laryngologist myself, and there are so many things he brought out. One of the most important things is the great co-operation that should exist, not only between the surgeon and the rhinologist, but also between the general practitioner and the rhinologist. The next thing he brought out is the fact that we are having much more sinus work at the present time than formerly. There is a reason for that. The oto-laryngologists are learning to make better diagnoses. We are studying more, we are learning more. We must remember that sinus diagnosis has come to amount to something only in the last ten or fifteen years. Dr. Street says that 15 years ago we knew very little about sinus work. Twenty-five years ago, when I graduated, we knew nothing of it. The only thing I ever saw in relation to nose work was the removal of several polypi once or twice, and in so far as eye work was concerned, we saw some cataract work and an acute inflammation of little importance. It shows the vast amount of progress we have made—the vast amount of work that has to be done. Just recently I received two works which Dr. Hightower of Louisville translated, and he gave us much valuable information, particularly about the ethmoid and sphenoid work. Antrum work is very easy, but he has helped us to clear that condition very much, and as Dr. Street says, if the rhinologist and the general surgeon will co-operate and work a little closer together, the patient will not only reap the reward of the benefit of their studies, but we shall have so many more relieved patients, and we won't slip up so much on our diagnoses. So carefully examine all these cases and get the co-operation of all the men whether it be the pathologist, or the roentgenologist, or the general practitioner, or the surgeon. We should all work together to one common end, and that is to get results and have the patient better.

Dr. W. W. Crawford (Hattiesburg): Dr. Street has brought us a very important message this morning, and as he has suggested, no doubt this field has been tremendously neglected by the general surgeon, and the general practitioner for that matter, as it relates itself to their work. A great many of these sinus conditions are overlooked and the patients have failed to secure relief because of the removal of the pathology in other parts of the body. Despite the fact that the faithful specialists have drained sinuses and have given careful attention to them, there is a reasonable percentage of cases that go on like Tennyson's brook, having their physical symptoms and continue to fail to be well. I have in mind at this moment a patient of mine who had baffled us for a period of more than a year, with a headache in the left side of the head, an area scarcely larger than a dollar. Of course we knew it was a focal headache, and yet when he had consulted the ablest men in New Orleans, Philadelphia, Montreal and Toronto, he continued to

have these localized symptoms, so we gave him mercurochrome intravenously, and much to our gratification and his, secured a very satisfactory response to the treatment. Within a very few months he had gained 10 pounds in weight, and this treatment having been instituted some three years ago, has relieved him up to this time.

Another case I saw in January, a man with a parasinusitis of quite long standing. He had developed facial erysipelas in connection with it which although independent, exaggerated the condition of his sinus. This case was given mercurochrome intravenously, and after two or three doses he said he was not conscious of the fact that he had any sinus trouble at all. I mention this because as I said the specialists do fail in their most persistent efforts to drain, and to relieve these patients through drainage.

Dr. G. M. Street (closing): I thank you gentlemen for the discussion, and I just want now to emphasize one point in my paper, which Dr. Crawford has so admirably brought out, and that is this: sinus operation does not cure sinus trouble. Sinus operation ventilates the sinuses and gives the patient a chance to get well, but that must be followed up. I have had a great many sinus cases that have failed to get permanent results from the drainage and ventilation, but by keeping up with them and giving them mercurochrome intravenously, and giving them sun baths and watching their diet, changing their food, etc., they get well. They must be followed up in order to get results. The general man must keep up with them; he must work with the specialist because the simple drainage does not cure them. It merely gets the patient so he can get well if properly treated.

Another point is that it does not take a rhinologist to make a diagnosis. Any man in a general examination, taking the time to look at the patient carefully so as to be on the lookout for symptoms, can look at the nose and can see whether the nose is blocked, whether there is not a post-nasal dripping; and if he finds these conditions, he can refer the patient to a rhinologist. But above all do not turn the patients loose just as they get in the rhinologist's hands; work with them and see that they get the proper after treatment—that their diet is regulated—and they will get well.

THE TREATMENT OF HAY FEVER AND ASTHMA

WILLIAM SCHEPPEGRELL, M. D., AND N. F. THIBERGE, M. D.

NEW ORLEANS.

As there has been considerable discussion as to the effect of vaccine in hay fever and asthma, we have tabulated a list of cases showing the relative effects of pollen extract, of vaccine, and of the combined effects of pollen extract and vaccine, in the treatment of hay fever and asthma

VACCINES.

The vaccines used in these tests were principally of three varieties: First a mixed catarrhal vaccine composed as follows:

Vaccine No. 1.

Each cubic centimeter contains 1200 millions killed bacteria as follows:

Micrococcus catarrhalis	50	million
Friedlander bacillus (Bact. pneumoniae	50	"
Pneumococcus (4 types)	100	"
Streptococcus hemolyticus	50	"
Streptococcus viridans	50	"
Pseudo-diphtheria bacillus	100	"
Influenza bacillus (Pfeiffer)	100	"
Staphylococcus albus	350	"
Staphylococcus aureus	350	"

Second, a vaccine in which the organisms were selected on a basis of the bacterial tests of the secretion of 100 hay fever cases during acute attacks:

Vaccine No. 2.

Each cubic centimeter contains 955 millions killed bacteria as follows:

Friedlander bacilli	350	million
Micrococci catarrhalis	450	"
Pneumococci	30	"
Streptococci	35	"
Staphylococci (Aureus)	50	"
Staphylococci (Albus)	40	"

The third is the autogenous vaccine of the patient. While this is considered the most efficient, it requires several days to prepare, and one of the other vaccines was used during acute attacks of hay fever.

Regarding the selection of the vaccine, the first was used in cases in which the acute attack appeared to be due to infection by catarrhal organisms, the second in cases in which the symptoms appear to be due to increased pollen infestation. This was determined by the history of the case checked up by the daily pollen count (1).

Autogenous vaccine was used in cases that did not respond to the stock vaccines, and in which the attack was sufficiently prolonged to prepare this. It is especially advantageous in cases of asthma, and also, to a less degree, in cases of non-seasonal hay fever.

These vaccines are administered during acute exacerbations. The initial dose is 0.25 C. C. for adults, which is followed by 0.25, 0.50 C. C. The usual interval is two days. The dose is repeated the third day as the negative phase develops on the second day when the patient does not respond well to vaccine stimulation. These vaccines are not used in pre-seasonal cases as their object is to control acute exacerbations during the hay fever season.

POLLEN EXTRACTS.

The pollen extracts used were selected on the basis of the initial tests showing the pollens responsible for the patient's hay fever. The routine tests are made with the four Scheppegrell pollen groups, viz., Gramineae, Ambrosiaceae, Chenopodiaceae, and Artemisia.

The tests were limited to the first three pollen groups in patients residing east of the 100th degree longitude, and the artemisia in addition in cases living in the Pacific and Rocky Mountain States. While the initial tests are made with these groups, additional tests are frequently required. In the Southern States, for instance, the pollen of the ligustrum tree is sometimes an important factor in hay fever, and is occasionally the principal offender. Similar conditions apply to other localities.

The amount of pollen extract injected is based on the reaction of the initial tests of the patient, and is checked by the reaction to each previous injection. The intensive treatment has been found the most effective, the injections being given each day in rapidly increasing doses until the reactions are sufficiently marked to require a longer interval. The maximum dose varies according to the sensitivity of the patient. In some cases 800 to 1000 pollen units are sufficient to establish immunity in the patient, while in others, the doses must be carried as high as 8,000 and 10,000 units in order to give satisfactory results. Marked reactions from the injections are not more common in the intensive treatment than in the former methods.

In all cases a record is kept of the cutaneous pollen tests. For the sake of convenience, these records are placed in numerals of 0 to 100, 0 indicating a negative reaction and 100 a marked wheal two or more C. C. in diameter. In the case of the higher reactions, as from 80 to 100, the initial dose of the pollen extract in preseasonal cases is 10 pollen units, and is increased as follows, 15, 25, 40, 65, 80, 100, 125, 165, 200, 250, 325, 400, 500, 650, 800, 1000 units. These administered daily, or if there is reason for haste, such as the patient leaving the city, or the shortness of the intervening season, twice daily. If at any time there is a marked reaction, the intervals may be increased to two days, and the doses reduced accordingly. A local reaction not lasting more than 24 hours is not considered as interfering with the increased doses.

In the case of high sensitivity, as from 80 to 100, 1000 units is the usual limit in preseasonal treatment. In cases of lower sensitivity as 60 to 80, the doses should be

(1) The Hay Fever Association maintains daily records of the common hay fever pollens in the air. These furnish important information regarding the incriminating pollens responsible for acute exacerbations of hay fever.

twice the above number of units, and the limit 2000 units. In still lower sensitivity, the doses should be increased to 3000 or 4000 units. In some cases the maximum doses should be 5000 or 6000 units. The full dose should be reached before the patient's hay fever season, and continued at weekly intervals to the end of this season. Should the patient develop a constitutional reaction from these injections, this should not prevent the continuation of the treatment, but simply indicates smaller doses. Constitutional reactions, such as hay fever, asthma, and general miliary eruptions, are dramatic in appearance but are usually easily controlled by an injection of 0.25 C. C. of the standard adrenalin solution. These reactions rarely occur except with the ragweed extracts.

In the co-seasonal treatment, the above method is modified, the doses being reduced to one-half. Should acute symptoms develop, vaccine, as above explained, should be substituted for the extract until they are controlled. As the injections of the vaccine interfere with the progress of the immunizing doses, it clearly shows the greater need of the pre-seasonal treatment. Unfortunately a large number of patients do not apply for the first course of treatment until their hay fever has developed.

RECORD OF CASES TESTED.

In order to determine specifically the effects of vaccine in acute attacks of hay fever, 200 routine cases were selected in 1925 in the clinics of the Department of Hay Fever and Asthma of the Charity Hospital. In order to simplify the tests, these cases were all selected from the ragweed cases during the co-seasonal treatments. In 50 patients, all injections were omitted during paroxysms of hay fever. In 50 cases, the full doses of the pollen extract, which was being administered, was continued during the attacks. In 50 cases, small doses of the extract, which was being administered at the time (about 25 per cent) were injected; and in 50 cases, vaccine only was administered during the paroxysms.

The results of these tests were as follows:

	Days
50 cases without treatment, average duration of attack	5.25
50 cases with full doses of extract duration of attack	6.82
50 cases with small doses (25 per cent) of extract duration of attack	3.75
50 cases with vaccine only, duration of attack	2.52

The analysis of these cases shows that the use of full doses of extract during acute attacks of hay fever, prolongs the period of the attack longer than if no treatment is administered. Small doses of extract, however, reduces the average period from 5.25 days to 3.78 days. With the administration of vaccine, however, the duration of the attack is shortened more than one-half the number of days as when no treatment is administered, and one-third less than when small doses of pollen extract is used. The effects of the vaccine in cases of hay fever is so marked, that many patients voluntarily request the injection of the vaccine when suffering from an attack.

In 1926 and 1927 a similar number of coseasonal cases of ragweed patients were again treated in the manner indicated above, and the record of these cases give approximately the same results. The experience of the staff of the Department of Hay Fever and Asthma of the Charity Hospital, therefore, confirms the beneficial effects of vaccine in hay fever, as shown not only from these tests but in the routine treatment of cases generally.

In the cases of hay fever complicated with asthma, and of asthma only, the statistical table has not been prepared because the treatment was more complicated. During attacks of asthma, when there are acute paroxysms, adrenalin or ephedrine is frequently required, so that the comparison of the effect of the vaccine in these cases, while also effective, cannot be so easily estimated. The experience of the staff, in

cases of asthma, however, also shows that the effects of the vaccine in cases of asthma are relatively similar to those in hay fever.

The following list of cases of hay fever and asthma treated during 1926 and 1927 by vaccine, vaccine and extract, and extract respectively indicates the favorable influence of vaccine in these cases.

CASES OF HAY FEVER AND ASTHMA TREATED IN 1926 AND 1927 IN THE DEPARTMENT OF HAY FEVER AND ASTHMA OF CHARITY HOSPITAL.

HAY FEVER. COSEASONAL.

Vaccine:	Cases
Cured	22
Improved	12
	34

HAY FEVER. COSEASONAL.

Vaccine and Extract:	Cases
Cured	54
Marked improvement	114
Improvement	25
No improvement	3
	196

HAY FEVER. PRESEASONAL.

Extract:	Cases
Cured	73
Marked improvement	35
	108
	338 cases hay fever

HAY FEVER AND ASTHMA. COSEASONAL.

Vaccine:	Cases
Cured	11
Marked improvement	8
	19

HAY FEVER AND ASTHMA. COSEASONAL.

Vaccine and Extract	Cases
Cured	15
Marked improvement	45
Improvement	12
No improvement	2
	74

HAY FEVER AND ASTHMA. PRESEASONAL.

Extract:	Cases
Cured	11
Improvement	12
No improvement	2
	118 cases hay fever and asthma.

ASTHMA. COSEASONAL.

Vaccine:	Cases
Cured	17
Marked improvement	24
Improvement	8
No improvement	1
	50

ASTHMA. COSEASONAL.

Vaccine an Extract:	Cases
Cured	6
Marked improvement	33
Improvement	8
No improvement	1
	48

ASTHMA. PRESEASONAL.

Extract:	Cases
Marked improvement	4
	4
	102 cases asthma.
Total	558 cases

CASES OF HAY FEVER AND ASTHMA TREATED IN 1926 AND 1927 IN THE PRACTICE OF DR. Wm. SCHEPPEGRELL AND ASSOCIATES.

HAY FEVER. COSEASONAL.

Vaccine:	Cases
Cured	42
Marked improvement	24
Improvement	3
	69

HAY FEVER. COSEASONAL.

Vaccine and Extract:	Cases
Cured	150
Marked improvement	168
Improvement	9
No improvement	2
	329

HAY FEVER. PRESEASONAL.

Extract:	Cases
Cured	90
Marked improvement	36
Improvement	9
No improvement	3
	138
	536 cases hay fever.

HAY FEVER AND ASTHMA. COSEASONAL.

Vaccine:	Cases
Cured	12
Marked improvement	21
Improvement	3
	36

HAY FEVER AND ASTHMA. COSEASONAL.

Vaccine and Extract:	Cases
Cured	27
Marked improvement	24
Improvement	6
No improvement	1
	58

HAY FEVER AND ASTHMA. PRESEASONAL.

Extract:	Cases
Marked improvement	3
	3

97 cases hay fever and asthma.

ASTHMA. COSEASONAL.

Vaccine:	Cases
Cured	63
Marked improvement	69
Improvement	24
No improvement	3
	159

ASTHMA. COSEASONAL.

Vaccine and Extract:	Cases
Cured	18
Marked improvement	27
Improvement	3
No improvement	1
	49

208 cases asthma.

Extract. Preseasonal None

Total — 841 cases

In the above series of cases, the following physicians took part in the treatment; the tests having been made, and the treatment outlined by Dr. Scheppegrell:

Adams, Dr. J. M., Standard Oil Co., Baton Rouge, La.

Arnold, Dr., Meridian, Miss.

Barrett, Dr. W. W., Lyon, Miss.

Dickerson, Dr. L. D., McComb, Miss.

Dowling, Dr. H. B., Conception Street, Mobile, Ala.

Ewing, Dr. J. S., First National Bank, Vicksburg, Miss.

Farrington, Dr. Pope, 4 Exchange Bldg., Memphis, Tenn.

Gaines, Dr. G. W., Tallulah, La.

Gaudel, Dr. L. S., Natchez, Miss.

Gautreaux, Dr. H. E., Covington, La.

Gray, Dr. E. W., Scanlon Bldg., Houston, Texas.

Grayson, Dr., McGehee, Ark.

Green, Dr. H., Dothan, Ala.

Halliday, Dr. M. R., Meridian, Miss.

Harper, Dr. W. W., Selma, Ala.

Johnson, Dr. J. H., Brookhaven, Miss.

King, Dr. H. A., New Iberia, La.

Langston, Dr. B. T., New Hebron, Miss.

Lucas, Dr. G. C., Ebenezer, Miss.

Maghee, Dr. P. G., Van Antwerp Bldg., Mobile, Ala.

Martin, Dr. C., Welsh, La.

Martin, Dr. J. H., Lake Charles, La.

Mount, Dr. B., 523 Bell Bldg., Montgomery, Ala.

Purser, Dr. T., McComb, Miss.

Roy, Dr., K. A., Mansura, La.

Rudner, Dr. H., Madison Street, Memphis, Tenn.

Sauter, Dr., Waldo, Ark.

Simmons,Dr. R. C., Alexandria, La.

Slaughter, Dr., Bogalusa, La.

Wallace, Dr., Hotel Bentley, Alexandria, La.

Young, Dr. J. D., Shreveport, La.

Young, Dr. M. A., Abbeville, La.

Thiberger, Dr. N. F., Audubon Bldg., New Orleans, La.

TOTAL OF CASES OF HAY FEVER AND ASTHMA TREATED IN 1926 AND 1927 WITH VACCINES AND EXTRACTS.

In the following cases pollen extract only was used in preseasonal cases of hay fever and asthma, as the vaccine is not indicated in these cases. Vaccine and extract was used in coseasonal cases, as the majority of these had intercurrent attacks during their treatment. Vaccine only was used in cases where the examination and clinical history indicated hay fever, but in which there was shown no sensitivity to any of the atmos-

pheric pollens, but which reacted to the vaccines.

	Cases	
Hay fever cases treated with vaccine	103	
Hay fever cases treated with vaccine and extract	525	
Hay fever cases treated with extract	246	
		874 cases hay fever

	Cases	
Hay fever and asthma cases treated with vaccine	55	
Hay fever and asthma cases treated with vaccine and extract	132	
Hay fever and asthma cases treated with extract	28	
		215 cases hay fever and asthma

	Cases	
Asthma cases treated with vaccine	209	
Asthma cases treated with vaccine and extract	97	
Asthma cases treated with extract	4	
		310 cases asthma
Total		1399 cases

In cases of sensitivity to food or to epidermal inhalations, the treatment of these cases by elimination of the offending article was first carried out, and, if successful, were not included in these cases.

The satisfactory results in the groups of cases here reported are due to three factors: (1) the use of glycerol pollen extract, which has much greater efficiency than the aqueous extract formerly used; (2) The intensive treatment in which the injections are made at short intervals and carried to much higher doses; (3) The scientific use of vaccine (2) for the control of intercurrent attacks.

(a) Intensive Treatment for Hay Fever, Dr. William Scheppegrell, United States Public Health Report, April 30, 1926.

(b) Hay Fever and Asthma, Cause, Prevention and Cure, Dr. William Scheppegrell, Lea and Febiger.

A CONSIDERATION OF SOME OF THE INTESTINAL PARASITES, WITH A REPORT OF THREE CASES OF "OXYURIS INCOGNITA" INFESTATION.*

ELIZABETH BASS, M. D.,

NEW ORLEANS.

It is only since medicine and public health work have come to be considered world problems that the diseases produced by parasitic worms have come into prominence. Since such diseases are very prevalent in many parts of the world, and there is constant danger of their spread into new regions with commerce and immigration, it is important that the medical men, wherever located, should be acquainted with their manifestations and methods of diagnosis and should be able to identify the worms which produce them and know their methods of entrance into man.

In diseases produced by parasitic worms, the clinical picture is usually not very clear cut and the symptoms are easily confused with those of other diseases. In the majority of these diseases, however, the eggs or larvae of the worms escape with the feces and an accurate diagnosis can be made by microscopical examination of the stools.

Appreciating the fact that the majority of physicians have had very little time to devote to the study of intestinal parasites prompts me to offer a brief discussion of five of the more frequently encountered nematode words, with reference to their life history, habitat, mode of transmission, and some of the injurious effects in man.

The most important and the most prevalent parasites are: (a) *Uncinaria;* (b) *Ascaris lumbricoides;* (c) *Trichuris trichiura;* (d) *Strongyloides stercoralis,* and (e) *Oxyuria vermicularis.*

In general there is an anatomical similarity in the different nematodes. All are

*Read before Louisiana State Medical Society, Baton Rouge, April 10-12, 1928.

covered by a transparent, smooth cuticle, frequently ringed, and are cylindrical or fusiform in shape, varying in length from 1 mm. to 40 or 80 cm., according to the species. They have complete digestive, nervous and excretory systems. The sexes are different and easily distinguished, the male being smaller than the female and displaying a coiled or twisted posterior end, whereas the posterior extremity of the female is usually simple and straight.

The majority of these worms are widely spread throughout the world, but are more abundant and more frequently encountered in warm climates. They inhabit usually the small intestine and cecum, and at times the large bowel. All of the worms deposit ova, usually in large numbers, some of which hatch in the intestine. Each species has its characteristic egg, recognized by the size, shape, color and thickness of shell. Under favorable conditions and in varying lengths of time the eggs hatch, giving rise to young larva which, after undergoing certain developmental changes, are re-introduced into man direct, without an intermediate host.

The uncinaria, or hookworms, are among the most important parasites. There are two species, the *Ancylostoma duodenale* and the *Necator americanus*, the latter widely distributed on the American continent. The adult male of the *Necator americanus* is from 9 to 10 mm. and the female from 10 to 12 mm. in length. These worms live in the small intestine, sometimes in large numbers. The delicate shelled eggs pass out in the feces in the two to four segment stage. Within twenty-four hours, under favorable conditions of air, warmth and moisture, the embryo is seen coiled in the shell and hatches into a rhabditiform larva within a few days. Through a process of moulting these larvae become the filariform or infective larvae which bore their way into the skin, the usual method of infection, or occasionally, they may enter the mouth on vegetables or otherwise.

From the subcutaneous tissue the larvae enter the lymphatic or veins, go to the right heart, thence to the lungs. From the alveolar capillaries they pass into the pulmonary alveoli and travel up the bronchi, trachea and larynx, and then down the esophagus through the stomach to the intestine. The time occupied by this journey is believed to be from seven to ten days. Once in the intestine, a further stage of development occurs, when sexual maturity is reached. Eggs are seen in the stool within four to six weeks from the initial infection.

The soil in the area of the egg-carrying stool becomes infected with the filariform larvae, which may live in moist, sandy soil for weeks and larvae have been shown to migrate through moist loam to a depth of 36 inches, travelling about 5 inches a day. It is believed, however, that they ordinarily do not migrate more than 4 or 5 inches from the spot where they are deposited.

The *Ascaris lumbricoides*, or round worm, is thought to have a wider geographical distribution and to infect more people than any other known intestinal parasite. It occurs more frequently in children than in adults, and is more common in rural districts than cities.

The adult worm inhabits the small intestine, but may wander to the stomach and continue to the esophagus and pharynx. The eggs are unsegmented when deposited and require favorable conditions of warmth and moisture and from two to four weeks for development of the embryo. The full-grown embryo lies coiled within the egg-shell until it is introduced by chance into the alimentary canal of the human host, where it is set free, either as a result of the stimulation of the embryo by the alkaline substances in the intestine and by the increase of temperature, or by the action of the juices on the structure of the shell. It is thought the eggs are not infective until the embryo is fully devel-

oped and that the embryos remain living and infective for five years, at least, in water and probably longer in moist earth.

The embryo pierces the wall of the intestine and reaches the liver through the portal system, thence to the lungs through the venous circulation. It then reaches the intestinal tract in the same way as the hookworm larvae. The passage through the blood stream is thought to be essential for the development of the worm.

The migration of the embryo through the tissues and the injurious effects produced by them has been demonstrated in man and numerous animals. Koino[1] swallowed two thousand infective embryos and on the third day had slight fever, with chills on the sixth day and fever lasting nine days, the maximum temperature reaching 104° F. He recovered larvae in the sputum on the third day, with increasing numbers on the fifth day. At the end of fifty days, the worms expelled were not mature.

Manalang[2] studied the development and mode of infection of ascaris by artificial cultivation, having obtained eggs from female worms at postmortem or from chenopodium treatment stools, and found that ova developed into motile larvae from nine to fifteen days afterward.

He concludes that the high incidence of ascaris is due to the resistance of the ova to drying under ordinary temperature and humidity, their resistance to sunlight, the impermeability of the egg-shell to food condiments (salt, vinegar and sugar), the long life of the larva in the shell, and to the mechanical carriage of sewage by domestic animals. He believes the origin of ascaris infection is food, drink, fresh fruit or in infants and children whatever objects might contain the larvated ascaris ova of human fecal origin.

The *Trichuris trichiura*, or whipworm, is a common parasite of man and is widely spread throughout the world. It is more abundant in warm climates and occurs not only in thickly populated but rural districts as well.

The adult male worm measures from 40 to 45 mm. and the female from 45 to 50 mm. in length. The anterior portion of the body of both male and female is greatly attenuated, and this portion of the body is threaded into the epithelium of the intestine, while the thicker portion of the body hangs free. The worm lives usually in the cecum and the appendix.

After the eggs are passed in the feces they develop very slowly, the embryo not reaching full size for 6 to 12 months even under favorable conditions. Brown[3] in a series of experiments, was able to demonstrate trichuris eggs in the motile stage in twenty-one days, in artificial culture, but found that they would not develop as far as the motile stage in cultures in direct sunlight, showing that the type of soil is an important factor in the rate of viability of the eggs.

Infection in man occurs through the accidental swallowing of the embryo containing eggs, the shells of which are dissolved by the alimentary juices, thus liberating the young larvae. It is not thought that the larvae of this parasite migrate to the liver and lungs, but that they settle in the large bowel after reaching maturity in from four to five weeks.

The *Strongyloides stercoralis* are very small nematode worms, not more than 2 mm. in length. There are two distinct generations of this worm, one of which lives in the mucosa of the upper portion of the small intestine, and the other outside the body. Only one adult form of the parasitic generation is known. It is believed that the worm is hermaphroditic, the male organs degenerating after fertilization, or that it is a female reproducing by parthenogenesis.

Ordinarily, the parasite lives in the glands of the intestine, where the ova are

deposited and hatch before being discharged from the host. Outside of the body, on reaching water or moist earth, these develop into male and female adult forms, which in turn give rise to a new generation of rhabditum larvae. In about eight days this new generation becomes the filariform or infective larvae. These may grow to mautrity if they reach the intestine, but they die off after a time outside of the body.

Direct development may occur when the young rhabditiform embryos passed in the feces are directly transformed into the infective filiariform larvae and are re-introduced into the human alimentary canal to become the parthenogenetic females.

In both types of development the infecting larvae usually gain access to the human host by penetrating the skin; if ingested, they bore into the mucosa. From there they are taken up by the circulation and carried to the lungs. They emerge into the air sacs and ascending the trachea, enter and travel down the alimentary canal to become adults in the intestine in from ten to fifteen days. Larvae of a new generation first appear in the stools in seventeen days or less.

This is the one nematode believed to be more frequent in persons of advanced years, probably because sufficient investigation of its occurrence in children is lacking. The age at which the human is infected and the length of life of the worm is not known.

The *Oxyuris vermicularis*, or pin-worm, as far as is known, is found only in man, and has been found all over the world. It occurs in all climates, but is more abundant in the city than in the country.

It is believed to live in the small intestine at first and later in the large bowel. The adult male worm is from 3 to 5 mm. and the female from 9 to 12 mm. The egg containing embryo reaches the alimentary tract by way of the mouth by self-infection, contaminated fruits and vegetables and perhaps by flies carrying the infection to exposed food.

Ordinarily the ova are not deposited in the intestine. When the uterus of the female is loaded with ripe eggs, the worm migrates to the rectum and may be eliminated with the evacuations. The egg does not hatch until it is introduced through the mouth and is acted on by the digestive juices. The embryo grows to maturity in the small intestine and after fertilization the males die off and the females travel to the cecum and later to the rectum, where they either expel their ova or work their way out and deposit them in the folds of the external genitalia. This usually occurs at night and the scratching induced by the itching causes the eggs to be widely spread about the region of the anus. As a result of scratching, the fingers become contaminated with ova, which may be carried to the mouth and cause a new infection. It is seen that auto-infection can easily occur in the "finger-sucking" child; in fact, little hope of cure can be expected until the habit is overcome. The duration of the life of *Oxyuris vermicularis* in the human body is not known.

I wish to call attention to an interesting observation and report by Harris and Brown[4] on the study of 121 appendixes in a routine hospital laboratory examination in which they found 22 cases showing oxyuris nematodes. In a number of instances the worms were found deeply buried in the mucosa, sometimes only the head, but in other instances from one-half to two-thirds of the parasite entered the mucosa. The number of worms varied from one to 32 and the majority were found near the proximal end of the appendix, very few being seen at the distal end. It is interesting that these patients ranged in age from 14 to 30 years, averaging 23 years; also that the percentage of infestations in females was four times that in males.

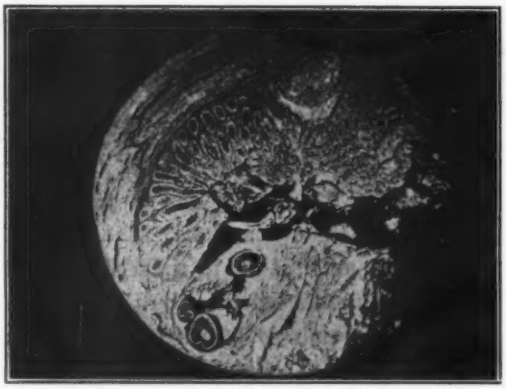

Fig. 1. Cass section of appendix, showing oxyuris vermicularis buried in the mucosa. (Harris & Browne).

Fig. 2. Appendix opened up showing several oxyurids. (Harris and Browne).

The clinical history of nearly all the cases was one of recurrent attacks over a period of one or more years, consisting of abdominal discomfort, pain, more escially in the right iliac region, and nausea, with little or no fever. In only a few of the cases slight increase in the total leukocytes occurred, the differential leukocyte count being practically normal in all, with no eosinophil increase. The writers stress the fact that no stool examinations were requested previous to the operation, which would indicate that the presence of intestinal parasites was not considered likely or in any manner related to the case.

I wish to report three cases of the so-called *"Oxyuris incognita"* of Kofoid and White,[5] now recognized as the *Heterodera radicicola*, a root parasite.

This ovum when first seen and described by Kofoid and White in 1919, was classed with oxyuris because of its asymmetry suggesting this species. The size of the egg and in addition the two highly refractive, hyaline blue-green globules, usually flattened asymmetrically at the poles of the egg, were sufficient to demonstrate its unique position among human helminth ova. The egg measured on the average 95 by 40 microns, but ranged in size from 68 to 133 microns by 33 to 43, dimensions greater than those of the ovum of any previously known human intestinal worm.

The fact that these eggs appeared sporadically in the stools and that their occurrence was especially noticeable in the summer, when vegetable salads are a significant article of diet, led Sandground[6] to experiment with the root nematode, *Heterodera radicicola*, which is both widely distributed and extremely common. He observed that the ova of this species pass through the human alimentary canal apparently uninjured and that they are in appearance in every respect indistinguishable from the eggs of the supposed *Oxyuris incognita*. In one case the larva was also positively identified as that of *Heterodera radicicola*.

Kofoid and White reported 429 cases out of 140,000 soldiers examined at Camp Travis, Texas. Burnell,[7] of Australia, in 1921, added 61 cases, including four of

Fig. 3. Ova of Heterodera radicicola, drawn to scale, in different stages of development. (From Saugronid's).

Fig. 4.—Ova of reterodera radicicola, with oxyuris vermicularis ovum at right for Comparison.

Sawyer's patients. Wycoff and his coworkers[8] saw 26 infestations in residents of California in 1923. One of my cases is a young man seen six years ago, in whom hookworm ova were also found. The other two cases are in two little Spanish girls, sisters, seen in February of this year, referred by Dr. E. L. Faust, of New Orleans.

Both of the children have trichuris infection. In all the cases reported, no one established relationship of occupation, place of residence or food contamination to infection. If symptoms occurred, the presence of human parasites were thought to be responsible. All ova disappeared, regardless of treatment, within three days and there was no recurrence.

My only excuse for presenting the cases is because of the possibility of the ova being confused with the ova of parasites found in man.

We are all fairly familiar with the usual symptoms that accompany parasitic infections, such as anemia, digestive and nervous disturbances, the severity of which is in most instances dependent upon the type of infestation, and, perhaps, partly upon the age and susceptibility of the patient.

Anemia may be either chlorotic or pernicious in type if the infection has been accumulative. The anemia in the instance of hookworm and strongyloides is not only due to the loss of blood but partly, perhaps, to the absorption of the toxic substances which it is believed these worms secrete. The poisons inhibit the coagulation of the blood and thus induce the persistent oozing which occurs from the denuded surfaces caused by the parasites.

The studies of the International Health Board on the effects of hookworm disease on the mental and physical development of children indicate that the disease interferes with both mental and physical development, the permanency of ill effects being directly related to the severity of the infection and to the length of time it perists.

Eosinophil increase is common in all of the five nematode infections mentioned, except the pinworm, at some stage of the disease. Although not diagnostic, it is significant and its presence should be followed by careful stool examination.

Since with almost all of the parasitic worms of man an injurious effect is produced in light manifestations as well as heavy, and although there may be no noticeable symptoms, and since every "carrier" is a potential spreader of the disease, it would seem that the greatest accuracy in diagnosis is desirable. On account of the presence of ova or larvae in the fresh stool, the diagnosis can usually be made by microscopical examination.

The treatment of parasitic diseases has not been presented. However, most of the recent text-books and current medical journals on the subject give the outline of such management. The reader is referred especially to the Manual of Tropical Medicine, by Castellani and Chalmers, and to Abt's Pediatrics.

Correct diagnosis and medicinal measures, followed up by preventive measures, are essential for the control of these diseases.

The prophylactic means are principally the proper disposal of human excreta, with cleanliness in the preparation of food, as well as personal cleanliness, and the avoidance of contaminated water and fruits.

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DISCUSSION.

Dr. Aldo Castellani: Mr. Chairman, ladies and gentlemen: I should like, first of all, to be allowed to congratulate Dr. Bass on her most interesting paper. Dr. Bass had the kindness to show me a number of her specimens, and I have no doubt, whatsoever, that her microscopical diagnoses were correct.

Study of intestinal worms, even the commonest worms, have great importance not only from a purely pathological point of view, but also from a clinical point of view.

In certain quarters, the old teaching still lingers, that, apart from the hook worm, the other worms have little pathogenic action, and if they have, it is merely local on the mucous membrane of the intestine.

I remember when I was a medical student, twenty-five years ago, a poor woman brought her little boy to the clinic held by one of the most famous professors in Europe.

The little boy was suffering from bronchitis, and the woman said, "I came to you because the boy has a cough, and I know it is worm cough, cough from worms." The professor laughed, and you may laugh, too, but in view of the present knowledge, now that we know the migration of the intestinal worms through the lungs, there is no doubt whatsoever but that woman was right.

There is a symptom which is often found, in my experience, in cases of helminth infestation which is hardly mentioned in text-books, and that is fever. I will limit myself to saying one word on the fever which is often present in cases of hook worm disease. I happened to describe this condition in Ceylon some years ago.

We had an excellent example of the condition, last year, at Charity Hospital, in a little boy from the city. The fever is of three types, you have an intermittent type, every day about ten or eleven o'clock in the morning, the temperature begins to rise and reaches its maximum about two or three in the afternoon; the maximum generally is between one hundred and one hundred and one, occasionally one hundred and two; it goes down toward night. Then, you have the second type, the so-called recurrent or undulent type; you have several periods of fever, each lasting eight or ten hours. Each day, the fever goes down, until it becomes normal. I have seen two of these cases mistaken for malta fever. Then the third type is the so-called irregular type, when the temperature may be one hundred and two, one hundred and three on some days and on others ninety-nine.

With regard to the origin of this ankylostomiasis fever, some authorities believe it is caused directly by the worm, that is to say, that the worm excretes certain toxins which will cause fever. I am rather of the opinion that the fever is not caused by the worm itself, per se, but is indirectly of bacteriological origin, that is to say, the little wounds made in the mucous membrane by the hookworm become infected by certain intestinal bacteria, which sometimes enter the general circulation.

In favor of my contention, are the following two facts: First, the temperature very often continues for two or three weeks after the intihelminthic treatment has been given and has been successful; second, in a number of these cases, the blood of the patient shows agglutinins for certain groups of intestinal bacilli. In a case we had at Charity Hospital last year, the blood gave agglutination for intestinal bacilli.

In conclusion, I should like to again congratulate Dr. Bass on her most interesting paper.

Dr. Clyde Brooks: I believe we are getting more to appreciate the value of studying parasites. At the University of Alabama, where we have been making a survey of the students, we find about twenty-five percent infestation with hookworm. Furthermore, this is not confined to the rural districts. We find hookworm cases right in Tuscaloosa. We should congratulate Dr. Bass on this excellent piece of work, and should try to put it in practice so far as we can.

Dr. C. C. Bass: I don't believe I have any discussion to offer. I am sure you will agree that this paper is timely to remind us again of the importance of a very common and prevalent disease or condition, that of intestinal parasites. The importance of infestation with some of these parasites, especially, has been very greatly emphasized recently by the discovery that in the case of most of them, the larvae pass through the lungs and do a great deal of damage there. It is demonstrable experimentally in the case of Strongyloides, as we had already known was the case with hookworms.

I remember many years ago, inoculating guinea pigs with very large numbers of hookwork larvae and observing the lungs just a few hours afterwards. It is simply amazing and one can hardly

appreciate it until he actually sees it with his own eyes, the amount of damage that is done by the larvae as they pass through the lungs. Much the same thing has been demonstrated to occur with ascaris and also with strongyloides.

It is interesting to recall, also, the fact mentioned by Dr. Elizabeth Bass, that the strongyloid is a harmful parasite, especially of old people. As infected individuals grow older, their infection usually increases, and although the infection is more or less harmless during the active younger period of life, very serious damage may be produced by the rapidly increasing number of larvae passing through the lungs in very old people.

Dr. Geo. S. Bel: Mr. Chairman and Members of the Society: Dr. Bass is to be complimented upon her very carefully prepared and ably presented paper.

I now recall a patient who presented herself at my office. She was muchly emaciated and complained of coughing. Without performing a physical examination, I requested that she send a specimen of sputum for examination. A few days later, much to my surprise, I received a report from Dr. W. H. Harris, to whom the specimen had been sent, stating that a large number of ova of uncinaria were present.

This incident I have never forgotten.

Dr. Guthrie: Mr. Chairman and gentlemen: It was my good fortune to report the first case of American hookworm in Louisiana, in 1903, and since then, I have been more or less interested in the subject.

At the Base Hospital here in Alexandria, we had the Thirty-ninth Division; the Thirty-ninth Division was composed, as you know, of troops from Louisiana, Mississippi and Arkansas. We made a survey, after the epidemics of meningitis were finished, and found the statistics on the Thirty-ninth Division, so far as hookworm was concerned, about as Dr. Brooks described them, about twenty-five or twenty-seven percent of infestation.

It seems, in the meantime, we know that from our clinical experience of today, that the proportion in the hospitals, our proportion of hookworm infestation is very much lower than that. We do not get the heavy infestations as before. We have been priding ourselves that, with the money expended by the Rockefeller Foundation and all the activities at work, we have cut down that infection enormously. Dr. Brooks' statistics on infestation are rather startling, and it would seem that we have further work to do.

Anyone who has worked on animals knows what a frightful struggle it is in the way of keeping those animals from intestinal parasites. Our own struggle is less than that, but still a factor in public hygiene. We must work on this problem from the standpoint of constitutional and distant infection. The motion of the migration of the organism, which we have known for sometime, the temperature reaction would suggest very strongly the possibility of infection, and it would seem more likely that the infection left by the worm, in its passage through the bowel through the tissues was a responsible element rather than something secreted by the worm, himself.

Dr. De Buys: Several years ago I made a survey of five institutions and examined the stools of five hundred and ninety-five children. Dr. Hugh C. Dwyer collaborated with me. We wanted to know what intestinal parasitic infections existed in these children; with what frequency; and what value should be placed on those symptoms usually ascribed to these infections. As you all are aware frequently parents will say, "Doctor, my child had worms," and will give a reason for their opinion the existence of the symptoms of picking of the nose, scratching the anus, gritting of the teeth and rastless at night, etc. In the study it was found that these various symptoms were as frequent in those individuals who were not infected as they were in those who were infected. The bloods of all the children were also examined. While an eosinophilia may be looked upon with suspicion it is not diagnostic of an intestinal paraisitic infection. For indeed we found at least one instance, in every type of infection included in our study, of the absence of an eosinophilia. The only absolute diagnosis of the existence of an intestinal parasitic infection is the finding of the parasite or its ova. It is interesting how free from any symptoms children may be. It has been my custom for many years to include a stool examination of every patient brought me for consultation, no matter what might be the ailment. It is illuminating to note the frequency of infections and especially so in those cases from the tropics. Triple and quadruple infections are not unusual, and in children too who have no suggestive symptoms.

After the diagnosis is made what is to be done with the patient regarding the treatment. It has been very discouraging at times to see how inefficient are the various drugs which are advocated for the indivdual worms. With some of the worms there are drugs which appear to be specific. In some of the more common infections as for example the round worm I have seen cases where santonin and all the other intestinal antiparasitic drugs have been ineffectual.

A simple point in the treatment of oxyuris which was brought to my attention several years ago and has proven of much value and which I

wish to pass on to you is, to put on the patient some kind of garment so that the individual's finger-nails cannot reach the anus and thereby the individual cannot reinfect himself with his hands by carrying the infection to his mouth.

I think that the paper which Dr. Bass has presented emphasizes very clearly the cycle of the parasites that she considered. I cannot help but mention that there is much to be done in connection with the treatment of the various types of intestinal parasitic infections.

Dr. Harris: Any further discussion? I would like to make a few remarks. Dr. Bass, in her paper, has very kindly alluded to the observations carried out by Dr. D. C. Browne and myself, upon the presence of the oxyuris vermicularis in the examination of routine appendices removed in a considerable number of cases. A very striking fact, as Dr. DeBuys has mentioned, is that these patients gave no other symptomatology to occasion one to think of a parasitic infection. It also lays stress on the fact in these cases of rather obscure symptomatology with reference to the appendix, that in nineteen percent of the cases, we found the oxyuris had invaded the appendix and brought about pathological changes in the mucosa.

I might mention, along the lines of oxyuris, another member of the group that we chanced upon in our work. There has been considerable discussion as to whether the oxyuris occasioned appendicitis, and Dr. Brown and I attempted to carry out some experiments in the lower animals. The monkey has no appendix, and, contrary to the evolutionary notion, we found that the rabbit (unless he may be considered nearer the human) has a very splendid appendix, practically amounting to a diverticulum.

We, therefore, fed the rabbits with a certain number of living oxyuris vermicularis, and, after a certain period of time, we gave the rabbits a dose of castor oil, to see whether our number of parasites introduced, usually forty or fifty, had multiplied. We were surprised to find a tremendous evacuation in one animal, consisting of about one thousand or more parasites. We noted they were a little more white and a little shorter than those we put in. We thought possibly the herbivorious nature of the animal, which had been infested, may have modified this organism. Upon further study, however, we found that the rabbits are occasionally infested with an oxyuris ambigua, and, as a matter of fact, there are a considerable number of oxyuris that exist among lower animals.

Is there any further discussion? If not, I will call on Dr. Bass, and, in closing, she might show the lantern slides which she has gone to some trouble to prepare.

Dr. Elizabeth Bass (closing): In closing may I say that it required not a little courage for me, an embryo in the knowledge and study of intestinal parasites, to event attempt to skim the surface of the subject in the presence of the eminent and world recognized authority, Sir Aldo Castellani.

One only has to look at the Manual of Tropical Medicine in which he is joint author, without attempting to read or absorb much of its contents, to appreciate our good fortune in having him present to discuss this superficial paper. After all I feel that for you my feeble attempt has been "a blessing in disguise."

I wish to thank all of those who have taken part in the discussion, and especially to thank Dr. Harris for having given me the privilege of appearing on the program.

REVIEWS

THE B. C. G. VACCINE.*

REPORT ON CERTAIN RESEARCHES BY DR. A. BOCCHINI.

ABSTRACT TRANSLATION WITH INTRODUCTION.

JOHN SIGNORELLI, M. D.,

NEW ORLEANS.

Because of the widespread general interest, and particularly because of the local interest recently manifested in the work being done by Calmette and his co-workers on the development of a vaccine for the immunization of infants against tuberculosis, the writer has thought it opportune to bring to the attention of this body, the reported results of research work carried on in this connection, at the Institute of Clinical Pediatrics, Royal University of Perugia, under the direction of Prof. I. Nasso, and reported by Dr. Adriano Bocchini in the February 15 issue of "La Pediatria." The writer is especially prompted in this by the

*Read before the Louisiana State Pediatric Society, Baton Rouge, April 9, 1928.

fact that this is the first report coming to his attention which is at variance with the many other writings he has seen on the subject, and which have been more or less uniform in their enthusiastic spirit of commendation. The subject is so vastly important and the possibilities for good or for harm are so far-reaching that we, to whom the public justly looks for guidance, must accept it as a duty to learn fundamentally whether we are dealing with an innocuous substance capable of producing only good in the host, and at worst neither benefit nor injure our patients; or whether in introducing this vaccine we are furnishing our patients with a potential active tubercular infection.

Bocchini introduces his article by reviewing previous attempts made in endevoring to develop an anti-tuberculosis vaccine with special reference to the work of Maragliano in 1885. He then details the theory and development of Calmette's vaccine, giving detail statistical data already reported by various writers, and finally justifies his own experimental work with the following paragraph:

"Before beginning vaccination in the human species, however, we desired to undertake a series of experiments upon animals with view of becoming personally acquainted with inability of the vaccine, however administered, to provoke lesions of tubercular nature, and of its preventative efficiency.

"The vaccine was generously furnished by Prof. Ascoli, Director of the Institute 'Vaccinogeno Antituberculare' to whom we renew our expressions of gratitude.

"We submit at this time the results of experiments covering a series of rabbits treated endovenously. As to the technique of administration and the doses (vaccination and virulent) we have strictly abided to the rules indicated by Calmette in his latest works.

"On February 23, 1927, twenty rabbits whose weights were from 2500 to 3200 grams, were given intravenously a single dose of 30 mgr. of B. C. G.

"Between the twentieth and fortieth day from the inoculation four rabbits were sacrificed.

"Autopsy in each case showed the lungs to be permeated with small nodules of a light yellowish color; these were located beneath the pleura and within the parenchema. Histological examination of the lung tissue made by Prof. Businco, Director of the Institute of Pathological Anatomy of the University, showed evidence of a desquamative broncho-pulmonitis, characterized by numerous foci of variable size, irregularly spherical, most of which were located within the parenchyma; often in close proximity of, or in contiguity with the bronchioles or small blood vessels. The smaller ones were the size of a pulmonary alveolus of which they obliterated the lumen; others progressively larger result from confluent involvement of several adjacent bronchial or alveolar areas.

* * * * * *

"Staining by the method of Ziehl demonstrated occasional acid-fast bacilli.

"*Liver:* Macroscopically reveals only occasional small nodules of a light yellowish color. Histologically the tissues present several granulomatous formations of various sizes, made up of small foci of lymphocytic infiltration and epithelial cells.

"The *spleen* presented hyperplasia of the follicles and dilatation of the lacunae, which were filled with epithelial cells.

"No other findings of note were discovered in the other viscera of these sacrificed animals.

"Two and one-half months after vaccination the remaining 16 rabbits were administered a toxic dose, consisting of the endovenous administration of 0.5 mgr. of a virulent bovine tubercular culture emulsified in 0.5 cc. of sterile physiological (salt) solution.

"An identical inoculation was administered to 6 non-vaccinated rabbits, to be used as controls.

"About one and one-half months later two rabbits of the control series died. Autopsy presented a picture of generalized military tuberculosis with lungs, liver, kidneys, spleen, etc., permeated with tubercles.

"A few days after the death of the two control rabbits, one of the vaccinated rabbits died. Autopsy by Prof. Businco, showed all the lobes of both lungs increased in size with the pleural surfaces quite rough from the presence of numerous spherical elevated nodules, yellowish in color and gelatinous in oppearance, which alternated with areas of crimson color. The general consistence of the entire lung was diffusedly nodular.

"On section the surface presented numerous nodules of sizes varying from a pin point to a grain of wheat or even larger; the larger were mostly cortical and subcortical, yellowish in color, compact and moderately moist.

"*Liver:* Congested with many small light yellow nodules about the size of the head of a pin; the same nolules were present on section surfaces.

"The *spleen* was generally congested.

"The *kidneys* were normal in size, and showed diffuse punctiform nodules espesially in the cortex.

"*Histological examination* of the lungs showed a desquamative broncho-alveolitis, and caseous nodular foci, either circumscribed or confluent, more especially characterized by an abundant de-epithelialization of the bronchioles and alveoli, and infiltration of the septi. In certain locations the desquamative changes of the entire lung tissue in form of circumscribed foçi which show homogenization and necrosis. Separating these foci were areas of parenchyma less occupied by exudate and others showing enlarged bronchioles and alveoli (emphysema). All over there was a conspicuous repletion of vessels showing proliferative changes of the imtima and lymphocytic infiltration.

"*Liver:* Upon a general back ground of hyperemia and fatty degeneration, were numerous granulomatous formations. There was lymphocytic infiltration and recent proliferation of the connective tissue about the portal vessels.

"The *spleen* presented hyperplasia of the follicles, and notable dilatation of the lacunae which contained quantities of hemoglobin-pigmented large cells of a yellow color.

"The *kidneys* presented hyperemia and an occasional hemorrhagic focus; also moderate degeneration of the tubular epithelium. The most striking finding was the presence of several nodular formations, though these were not very numerous.

"During the succeeding weeks other animals of our series died; those which had been vaccinated as well as those of the control series. At the end of three months every one of them had died.

"Autopsy of the vaccinated rabbits presented lesions more or less analogous to those described above, both macroscopically and histologically.

"We do not consider it necessary to add prolonged discussion as nothing could add to the evidence of the above facts.

"Administered endovenously to rabbits in maximum doses of 30 mgr. the B. C. G. vaccine did not demonstrate itself either innocuous nor efficacious since, it provoked lesions of specific nature (desquamative broncho-alveolitis) and did not protect the animals so vaccinated from subsequent virulent inoculations.

"Already Heymans had cast doubt upon the efficacy of the B. C. G. vaccine. This author having vaccinated and later inoculated by endovenous and subcutaneous ad-

ministration of very weak virulent bacilli about 150 guinea pigs and rabbits, saw all the vaccinated animals die from generalized tuberculosis, surviving only by a few days or weeks the controls. Even the animals kept together with guinea pigs affected with active (open) tuberculosis, in spite of vaccination, contracted a fatal tuberculosis.

"Recently Coulaud noting and describing the vast and profound lesions met in rabbits receiving maximum doses of B. C. G. endovenously, concludes that these never produce caseous formations and in all cases there is an evolution towards complete recovery, both biologically and histologically. However, it is also true that Coulaud injected only 15 mgr. of the vaccine (half the dose advised by Calmette) and did not subsequently conduct any virulent control tests.

"More recently Kraus, Selter, and Blumenberg, though admitting with Calmette that the vaccine B. C. G. administered by mouth, in limited doses, is inoffensive, insist upon the tubercular nature of the lesions met in the animals vaccinated by the intravenous and intraperitoneal routes. These findings have been, at least in part, confirmed by Suarez, who, apparently authorized by Calmette, justifies them by affirming that if the vaccine B. C. G. is avirulent this does not exclude that it might be pathogemic.

"But admitting that the lesions provoked by the endovenous administration of the B. C. G. evolve with certainty to a complete recovery, the vaccine, however did not protect our rabbits against the administration of virulent bacilli, as a control. All the animals in fact died within the space of one to three months presenting signs of generalized tuberculosis. And here it is of interest to refer to a female rabbit vaccinated and subsequently inoculated with virulent germs which, four months after the vaccination and 48 days after the control inoculation, gave birth to a premature fetus, which at autopsy did not present any tubercular lesion. Pieces of organs from the fetus, however, inoculated by laporatomy, within the peritoneal cavity of a guinea pig, produced death of the animal at the end of 26 days after inoculation, with findings of a classic generalized tuberculosis.

"Which demonstrates that not only had the B. C. G. failed to protect the mother from the virulent inoculation, but had also permitted the virus to pass through the placenta and infect the fetus.

"Before concluding it seems opportune to insist that the grave lesions met by us and other authors refer exclusively to animals treated by the endovenous route of administration of the vaccine.

"We do not put aside the fact that the vaccine administered by oral route and in small doses may result harmless. But may it not be that this innocuity depends not so much upon the avirulence of the germs as to the route of administration.

"Altogether it does not appeal advisable to us to use in the human even by the oral route and in small doses, a vaccine which administrated endovenously provokes very grave lesions, upon the tubercular nature of which every one is in accord.

"Moreover, studying carefully the statistics of Calmette, of Weill-Haillé and of Turpin, one can not be but surprised by the relative frequency of cases of tubercular meningitis observed even in the earliest months of life in infants which had been vaccinated. The onset, so early, of this localization, which usually is met after the third or fourth month of life, might not without reason, be placed in close relation to the administration of the vaccine."

CASE REPORTS AND CLINICAL SUGGESTIONS

CASE REPORT OF LOBAR PNEUMONIA TYPE II WITH POSITIVE BLOOD CULTURE.*

CHAILLE JAMISON, M. D.,
and
HYDER F. BREWSTER, M. D.,

NEW ORLEANS.

Lobar pneumonia, as one of the major causes of death, must necessarily command the attention, time and only too often the disappointment of the internist. Fortunately, we now have a specific anti-serum with which to combat Type 1 pneumonias when employed sufficiently early. Type IV is not so terrifying because of its relatively low mortality. The chief point of contention is now with types II and III both of high mortality and against which we have no sepecific sera These types are highly fatal when blood cultures are positive.(1)

CASE OF P. W. (No. E22804).

This case is one of Type II lobar pneumonia, presenting a positive blood culture, occurring in a young vigorous negro male, 24 years of age, hyposthenic in type and weighing 155 pounds. He was admitted to Charity Hospital October 15, 1927, at 10:15 p. m.

The history on admission revealed the immediate complaints of headache and pains in the upper right abdomen and lower right thorax, the latter exaggerated on deep breathing or coughing. The illness dated from 7:30 p. m. of October 13, when, with very slight prodromal symptoms and no definite exposure, the patient had a rather severe chill followed by headache, fever, general malaise and rather sharp pains in the upper right abdomen and the lower right thorax. Soon a non-productive cough developed which exaggerated the pains considerably; later the cough became productive of a very tenacious sputum which, by the time of admission, had become strikingly typical of lobar pneumonia. No other complaints were admitted and the past history revealed nothing of importance except that the patient had never had any type of pneumonia before; had always been strong and healthy, and that previous to about eighteen months ago he had been a rather heavy drinker.

The physical examination on October 16 revealed a well-developed and well nourished light chocolate colored negro male, hyposthenic in type, 24 years of age, weighing 155 pounds, lying quietly in bed on his back. He was mentally clear and accurate, but gave the general impression of being very sick. It was at once observed that the sclerae were deeply jaundiced, the ala nasi dilated widely on early inspiration; the respirations were rapid—36 per minute; there was an expiratory grunt, and that herpes covered about one-half the surface of the lips. The lower part of the right lung—lower lobe—was relatively inactive, having very little, if any, expansion and practically no vertical excursions. Over the lower lobe of the right lung were elicited flatness on percussion, increased tactile fremitus, bronchial breathing, bronchophony and pectoriloquy. Only along the upper border of this area could a few fine moist rales be heard. Tenderness was noted over the lower part of the right thorax, especially in front. The heart was normal in size and position; its sounds were rather clear and loud; the rhythm was regular—rate 120 per minute; no murmurs were present. The abdomen presented only tenderness of a moderate degree along the right costal border, with detectable rigidity of the upper part of the right rectus. The extremities presented nothing of note except a radial pulse of good volume and tension and well sustained.

LABORATORY EXAMINATIONS.

Sputum, October 15, 1927—Tenacious and "rusty", presenting many Gram positive lancoid diplococci; sputum typed No. I.

Urine October 16, 1927	October 20, 1927	October 24, 1927
Sp. Gr. 1.015	1.009	1.010
Albumen, 1 per cent	0.5 per cent	1 per cent
Few pus cells	Few pus and r. b. c.	Few pus and r. b. c.
Few fine gran. cast	Mod. fine and coarse granular casts	As for October 20

Other findings negative except for bile pigments.

*Read before the Orleans Parish Medical Society, April 23, 1928.

BLOOD COUNTS	Oct. 16, 1927	Oct. 20, 1927	Oct. 25, 1927
Total red cells.....		4,330,000	4,250,000
Total white cells..	22,750	36,750	24,250
Small mono.	4	1	2
Large mono.	1	1	1
Eosinophils	0	0	0
Basophils	0	0	0
Neutrophils	95	98	97

BLOOD CULTURES

October 17, 1927 Positive and Type II	October 24, 1927 Positive and Type II
Six colonies per one cu- per one cubic centimeter of blood.	One hundred colonies one cubic centimeter of blood.

Blood Wassermann October 17, 1927, negative.

TREATMENT.

The usual symptomatic measures were initiated and continued. High caloric diet, especially carbohydrates with an abundance of fluids, was stressed. Brandy was given in moderate quantities.

On the basis of the sputum typing I on admission, Type I antipneumococcic serum was given intravenously in 100 c.c. doses as per chart until 600 c.c. had been given in three days.

This produced no change in any phase of the case and only after the initial dose did there occur a slight reaction in the form of chilliness with some increased sense of depression. Our suspicions were justified when the blood culture proved to be positive and of Type II. Having no specific serum for Type II, intravenous administration of a one per cent aqueous solution of mercurochrome was initiated at once and continued daily as per graphic chart until 95 c.c. had been given in seven days. No mercurochrome was injected longer than thirty minutes after preparing the solution, and no reactions occurred.

SUMMARY OF THE CASE.

No better general view of the case can be had than that obtained from the graphic chart which presents temperature, pulse, respiration, blood pressure, intravenous medication and some important laboratory features, all collected in time sequence. At no time did there occur any substantial improvement in the general condition of the patient, no medications being of curative value. There are some very interesting fluctuations of blood pressure without any explanation. Also, great changes in respiration, but without definite association with the blood pressure. The pulse rate does not follow inversely the blood pressure in all instances. The fall in temperature simulating crisis nearly 24 hours before the death of the patient is also of interest.

(1). Cecil, R. L., Baldwin, H. S., and Larsen, N. P.: Lobar Pneumonia, Archives Int. Med. 40: Sept., 1927.

DISCUSSION.

Dr. John H. Musser (New Orleans): This paper of Dr. Jamison's was very instructive and more than unusually interesting because of his paper read before the last meeting of the Louisiana State Medical Society which reported a series of cases of Type II pneumonic infection.

Despite the number of cases of pneumonia which have been reported as being benefited by the administering of mercurochrome—the fact remains that in few cases do we know the exact results from the use of this drug. In the case reported by Dr. Jamison mercurochrome had no effect whatsoever; if anything, it had a deleterious effect. In the treatment of this condition, we must bear in mind that, so far as we know at the present time, mercurochrome has no effect, except in the early stages. After the first 24 or 48 hours there is little if any benefit from the use of this drug.

It is hard to judge accurately the result of treatment in the disease, pneumonia—I know of nothing more difficult. I have known one hospital, for some years, to admit all patients to one of three services in order to estimate the efficacy of three different lines of treatment:

(a) quinin and urea;

(b) expectant or digitalis;

(c) anti-body preparations.

One winter the service that was using one of these preparations had marvelous results; the second winter another service was the most successful and the third winter, the service which had not done as well the two previous winters had the best results. So you can, therefore, see that it is difficult to evaluate the efficacy of any treatment of pneumonia. We must bear in mind the consideration of the different types of pneumonia and that in different winters one type of pneumonia is more frequent than the others. It varies much in different winters. It is rather hard to make any dogmatic statement about the different types, their seriousness and frequency unless a study is carried on for some time. Dr. Jamison hopes to continue to study pneumonia and I am sure that he has brought out many interesting facts tonight. To these, I hope, will be added many more, as a result of his future studies of this disease.

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THE NATIONAL ELECTION.

The present number of the Journal will be out but a few days before the decision of the voters throughout the country will be made which will determine who shall act as their Chief Executive for the coming four years. In the short time that is left before November the sixth, make up your mind definitely and unalterably that you are going to vote, and to vote without bias or prejudice for the man you consider the better of the two candidates. The average physician regards elections with an almost ubiquitous lethargy. This is unfortunate because he, above all other men in his community, is blessed with the attributes of common sense, good judgment, public spirit, breadth of vision and social perception. Therefore, make use of these gifts directly by personal example and indirectly by word of mouth after mature judgment has formed your opinion. Remember that "the right of franchise is the right to vote—the most valuale heritage that the American people have." If this right was more generally observed by physicians than it is, their ideas and ideals concerning health, social, and public measures of their State or Parish would receive the attention from legislators they warrant.

In the present election national policies for the next four years will be largely decided. Now is the time to make your opinion felt. The candidate of one of the great parties has proved an able executor of enormous charitable benefactions; the other has done more in providing and caring for the lame, the halt, the blind, the sick and the insane of his State, or any State, than any man who has ever occupied a gubernatorial chair. Both men have shown their worth. Both men should prove satisfactory to the doctors of this country from the point of view of the elucidation of social problems. Therefore, let other considerations form your decision which will be expressed on Tuesday next by your formal casting of the tangible evidence of the right of franchise—the ballot.

THE NATIONAL INSTITUTE OF HEALTH.

Senator Ransdell has recently sent out to the medical profession in the State of Louisiana Report No. 1280, which has to do with the bill which the Committee on Commerce, of which he is Chairman, has under consideration. The purpose of this bill is "to promote the health of human beings, to prolong their lives, to increase their happiness, to improve their earning capacity, and to reduce their living expenses." A consummation of such Utopian ideals would most certainly create the millennium, but unfortunately it is not to be attained by an act of Congress. More specific than this

rather broad statement of the object of the bill, its purport is to create a national institute of health, under the jurisdiction of the Surgeon General of the United States Public Health Service which has for its purpose the acceptance of gifts for the study of disease, the maintenance of fellowships in scientific research and the encouragement of investigative problems. At the hearings of the Sub-Committee of Commerce, many distinguished gentlemen spoke on the advantage of having the Government enter into the field of medical research, and to further this with an appropriation of $10,000,000. There is no question that such an appropriation would be of gain to research in medicine. It is decidedly an open question, however, if the Government should continue to enlarge and to widen its present-day activities of a socialistic nature. The paternalism of the Government, as exhibited in so many different directions at the present time, is a far cry from the democratic simplicity of the Jeffersonian era. To many men at least it seems time to cry a halt to the increasing tendency of the central Government to take over the management of everything or anything, no matter whether it deals with business, commerce, law, finance, agriculture, medicine, or other phases of the everyday life of the citizen.

THE DAMAGED HEART AND ANESTHESIA.

A subject of mutual interest to the physician and to the surgeon is how to estimate the risk and how to care for an individual with a damaged heart who requires an operation. Often this question is answerable only in one way because the operation is necessary to save the patient's life, and the possible deleterious effect on the heart must be summarily dismissed; but another query arises in this latter case which best can be answered by proper team work between the interested physicians, as to what pre-operative and post-operative protective measures are advisable under such circumstances. The first of these problems is further complicated by the factor of heart failure in a certain proportion of cases. Marvin* writes that this consideration is of primary importance. If a patient with signs of heart disease is able comfortably to carry on the activities of a normal life he does not have heart failure, and the so-called stress and strain of operation, which truthfully throws but little load on the heart, will not affect that individual. If early congestive failure is possibly present as shown by the history of dyspnea on exertion, the two pillows at night story and the afternoon pretibial edema, plus rales at the lung bases, it would be wise to administer digitalis in full therapeutic doses. In patients with advanced congestive failure naturally operation would be performed only under the most urgent circumstances, but even with these patients, rest, digitalis and diuretics will carry far. Digitalis, as a routine measure, in the average dose, has very little value and should not be given as a routine preoperative measure.

The choice of the anesthetic is of importance, but of greater importance is the selection of the proper person to administer either ethylene or nitrous oxide. With these anesthetics at hand and a skillful anesthetist the patient will sink off into a pleasant, dreamless slumber instead of exhausting the cardiac reserve with a prolonged combat, the like of which no sane physician would countenance under any circumstance in a patient with a damaged heart.

The fear of operating upon a patient with heart disease has largely passed. Proper care before the operation and afterwards will prevent serious results in most cases, but always the surgeon should bear in mind the possibility of sudden death, even at rest, of a patient with syphilitic heart disease with aortic insufficiency, complete heart block, and angina pectoris. When operation is advisable upon such patients, they and their families should be warned of this possibility by the surgeon as a measure of self-protection.

*Marvin, H. M.: The heart during anestesia and operative procedures, New England J. Med., 199:547, 1928.

HOSPITAL STAFF TRANSACTIONS

TRANSACTIONS OF THE PRESBYTERREAN HOSPITAL CLINICAL SOCIETY.

The regular monthly meetings of the society were resumed September 27. The routine business was attended to in the usual manner, and several interesting deaths were discussed. Among the latter was one by Dr. Loria. The patient had had symptoms pointing to a severe parenchymatous nephritis probably arising from mercurial poisoning. He developed a bloody watery diarrhea and complete anuria. His blood chemistry showed the following: (1) total non-protein nitrogen 400 mg., (2) uric acid 6.1 mg., (3) creatinine 7.5 mg., and the carbon dioxide combining power of the blood 106.5 volume per cent. No urine could ever be obtained for an urinalysis. The red blood cell count was 2,925,000; and the total whites 21,000. The patient was critically ill over a period of about five days, before dying.

Dr. D. C. Browne presented an interesting survey of some recent clinical work, undertaken by him, on a method for the treatment of oxyuris vermicularis infections. According to him it has been shown that this parasite is particularly susceptible to even slight elevations in temperaure. Heat kills them off very rapidly. As the result of this Dr. Browne has devised a method of introducing very warm saline into the colon per rectum. The heat and quantity is ingeniously regulated by a mechanical devise. The patients are given from one to three of these treatments— as the necessity may arise—and his results have been very gratifying. He reported a series of cases, and showed—by comparison—that this form of treatment is better than many of the other methods.

A case of multiple sclerosis was presented by Dr. H. R. Unsworth, in whom a diagnosis of cerebellar-pontine tumor had been made elsewhere. The patient was a married woman 32 years of age. She presented symptoms, which to the unwary appeared typical of a cerebellar-pontine tumor. However, there were enough unusual findings in the history and physical examination to warrant further study—which Dr. Unsworth proceeded to do. Operation was deferred; and the patient examined several times and by several neurologists, etc. The existence of any intra-cranial tumor was completely ruled out and a definite diagnosis of multiple sclerosis made.

Dr. Unsworth explained that this case taught him rather forcefully two important points, i. e., "first that it is always wise not to accept a diagnosis without a very careful history, routine laboratory work, and repeated examinations; because oftentimes our conclusions are misleading. Secondly, the symptomatology in this case was rather unusual and interesting."

FRANK L. LORIA, M. D.

STAFF MEETING

SOUTHERN BAPTIST HOSPITAL, OCTOBER 9, 1928.

1. Presentation of a case by Dr. Rena Crawford—Discussion.

2. Presentation of a case by Dr. Oscar W. Bethea—Discussion.

3. Presentation of a case by Dr. T. H. Oliphant—Discussion.

Dr. Rena Crawford presented a little patient of hers, who showed some leukoderma on his back. The child had been perfectly normal all his life. On January last, he became ill with a mild attack of chicken-pox. The mother did not call in a doctor as the child experienced no complications. In May, the child was brought to Dr. Crawford's office and it was found that he had leukoderma on his back. Wherever there had been a chicken-pox mark, there was a white patch. Dr. Crawford said that she had never seen a case like this before. Dr. Menage, who was consulted, said that he had often seen leukoderma from traumatic injuries, especially in negroes, but that he had never seen it from chicken-pox.

DISCUSSION.

Dr. Oscar W. Bethea asked if there was any history of these chicken-pox spots having become secondarily infected from scratching.

Dr. Crawford replied that she thought the spots were not secondarily infected as she thought the mother would have become frightened and called in a doctor, and she had not done so.

Dr. C. W. Allen said that a good many years ago, in talking to Dr. Isadore Dyer, he grouped leukoderma and chloasma as probably of a similar origin and suggested as a remedy a diet of beans, particularly applicable to chloasma. This was before the time of vitamins. He was asked how much beans should be eaten and said just to keep on eating beans as they had been known to produce improvement. Since then, we have learned of the high content of peas, beans and all legumes in vitamins. Dr. Dyer did not know why, but he had seen benefit from the use of beans. It may be that leukoderma would yield to the same remedy as did liver spots since he thought that they had a similar origin.

Etiological Diagnosis of Asthma. Dr Oscar W. Bethea.

This man, Mr. J. B. shows some rather interesting features that cause me to feel that we would be justified in presenting him at the staff meeting.

He was admitted with a diagnosis of asthma. I understand that his case had been regarded as true or spasmodic asthma, in contradistinction to symptomatic dyspnea, such as is frequently encountered in cardiac, pulmonary, renal and some other diseases.

He came here for two purposes, first, to secure symptomatic relief and second, in the hope that he could be permanently relieved of his chronic asthmatic tendency.

I will not burden you at this time with any detailed discussion of his general condition, or of what we have done to give him symptomatic relief from the acute attack. In the limited time available, I will simply outline the measures that we have employed to find the cause of his trouble, in order that we might apply specific therapy. Having established that the case is true asthma, there are several avenues that may lead to information that will aid us in establishing an etiological diagnosis. These include an analysis of the history, the skin test, the laboratory investigation, particularly the bacteriological study, and the therapeutic test. Of these we consider the analysis of the history of major importance, and it strikes me as rather interesting that this phase of the investigation of these cases should be so little emphasized in medical literature.

For the particular purposes suggested, we have investigated the history of this patient as follows:

The Age of Onset: It has been fairly well demonstrated that, as a rule, the asthma beginning in infancy is of gastro-intestinal origin; that beginning in early and middle adult life is usually the result of respiratory irritants, particularly pollens; that beginning in old age is usually the result of bacteria; and in practically all cases where asthma persists bacteria sooner or later becomes a factor. This patient was past sixty when he had his first attack; we consider this as evidence indicating the possibility of having the bacterial type of the disease.

The Effect of Season: When an individual has asthma at all seasons, it naturally indicates that the attacks are the result of factors that are operative at all seasons of the year. We can, therefore, safely exclude pollen as the only cause. If the attacks were only during the spring, summer, or fall, we could practically convict pollen as the offending material. This man has trouble throughout the year.

Effect of Location: When an individual has asthma at one place and not at another, it means that the attacks are the result of factors that are operative at one place and not at another. These cases are usually the result of pollens or other inspired material, such as the emanations from animals. This patient suffers consistently from asthma wherever he goes. The known causes of asthma which are most apt to be responsible for a case of this kind are those which are operative irrespective of location, such as food or bacteria. The patient carries his own organisms with him and location has little influence except in special instances, such as some of the high, dry locations where respiratory diseases are more or less uniformly benefitted.

The Presence of Other Evidences of Acute Respiratory Infection: The asthmatic attacks that result from pollen, emanations from animals and other related factors are not associated with fever or other findings of an infectious process. A food asthma may be associated with fever and cutaneous eruption, but it does not usually carry the evidences that would indicate an infectious process in the respiratory tarct. When the cause of the asthmatic seizures is bacterial, we are very apt to find all the signs and symptoms of an acute respiratory infection. This patient presents with his attacks all of the phenomena usually associated with an infectious process.

What Will Precipitate an Attack: Many patients are conscious of some special factor that will precipitate an asthmatic seizure. For example, I have one patient who knows that drinking cow's milk

will promptly bring on an attack. Another patient knows that inhaling the dust from wheat flour will precipitate his trouble. This patient before us is not conscious of any particular offense that will precipitate a paroxysm, except that they seem to be associated with what is usually termed a common cold. The analysis of the history of this case has rather convinced us that he has the bacterial type of bronchial asthma. The skin tests have given no reliable information. A bacterial study is now being made. We have had no opportunity as yet, to apply the therapeutic test of immunization against his own bacterial flora with autogenous vaccine, but we hope that in the near future, we will see him materially improved.

DISCUSSION.

Dr. R. H. Potts said that about six years ago, a young doctor came to him suffering with asthma, having experienced a great deal of trouble in getting through medical school and in fact, had thought several times of giving it up altogether. He attributed his asthmatic attacks to chicken feathers or goose feature. Dr. Bethea was called in consultation on this case and on going thoroughly into his history, found that his asthma had started in childhood. After studying his case, he was given a whooping cough vaccine which relieved. Dr. Potts said that he had seen the patient just recently and that he had had no more attacks.

Dr. J. Holmes Smith said that during the last six months in the clinic at Charity Hospital, all patients who have presented symptoms of asthma, have been taken to the fluoroscopic room and examined with lipiodol. In a certain percentage of cases, and they are probably of the bacterial type, the patient, as a rule, experiences great benefit from the use of lipiodol. One lady who had been using morphin for some time, following several injections of lipiodol, was relieved to such an extent that morphin was not necessary. The method of administration, as sponsored by Dr. Oeschner, is comparatively simple. The patient is brought to the clinic and given three, four, five, and six doses of lipiodol and generally with that, experiences pronounced relief.

Dr. J. P. O'Kelley said that we often have asthmatic symptoms in acute infections of the ethmoidal cells in children particularly, and in cases which have very marked stenosis, we have asthmatic symptoms, not only in children but in adults also. Where there is a decided infection of the ethmoidal cell or any of the sinuses in children, after clearing up those infections, the asthmatic symptoms disappear. He recalled the case of a little girl who came to see him a few days ago very badly involved from double ethmoiditis. After using the suction and cleaning treatment, she was relieved after a few treatments, of her asthmatic condition and did fairly well until she caught cold again and had to go through the same treatment. Removal of her tonsils and adenoids has lessened her susceptibility to colds and she is now relieved.

Dr. Allen asked Dr. O'Kelley if upper respiratory infections often caused this type of asthma.

Dr. O'Kelley repied that he had not come in contact with any cases of that kind at all. In chronic sinusitis, a patient does not, as a rule, have much occlusion of the anatomy. He may have a deviation of the septum that may block up one side of the septum and they do often complain of an asthmatic condition. Where there is no particular occlusion, he has not come in contact with any such cases except with purulent sinusitis.

Dr. Rena Crawford said that she was interested in the fact that in most children asthma is of gastro-intestinal origin. When a child develops asthma before the age of four or five years, he generally gets over it, probably due to his developing an immunity to the causative food. An attack of asthma, however, is usually preceded by rhinitis or bronchitis which would lead one to think the individual attack was due to some nose and throat infection rather than to a food.

She said she would like to know if autogenous vaccine, when used, gave much help.

Dr. Bethea, in closing, said that as asthma was such a large subject, he had only been trying to emphasize the matter of case history and etiological diagnosis. In reply to Dr. Crawford's query, he thought the result sufficiently encouraging in a large enough percentage of cases to justify carrying out these measures.

In Dr. Potts' case, that of the medical student, the patient had gone the gamut of diagnosis and treatment apparently without benefit and the diagnosis in this case had been reached by an analysis of his history, pure and simple. He got this in the student's history, that what had precipitated the attacks was whooping cough at about twelve or thirteen years of age. He had never had any symptoms before that, and working on this point alone, he was given the pertussis vaccine. He was given a moderate dose and had such a reaction as to confine him to bed for about a week. The very fact that the vaccine precipitated a violent seizure showed that it was probably that to which the patient was sensitized. He was started then with small doses, increasing in amount until several billion were given each time and he was completely and permanently relieved.

Dr. Bethea said that lipiodol was being used in his service at Charity Hospital. A few years ago, he started keeping two pollen test sets—one here

and one at the Charity Hospital and had encouraged the internes to use them. The results were not very encouraging.

Acute Hemolytic Streptococcal Mastoiditis with Manfold Complications and Recovery. Dr. T. H. Oliphant.

This case, that of a young man eighteen years of age, admitted to the hospital June 21, 1928, with acute hemolytic streptococcal mastoiditis complicated by a general streptococcal septicemia and acute endocarditis, multiple arthritis, and irritative symptoms referable to the central nervous system, was considered extremely interesting from two standpoints, namely, the severity of the primary infection with complete recovery, and the results obtained with arthrotomy of the knee as originally described by Willem during the world war and subsequently modified and elaborated on by many other workers.

In order that a better understanding of this case may be had, I think it well that we go briefly into the history. The patient was first seen on July 21, 1928, with a temperature of 104°, pulse 130, and respiration 28, complaining of severe pain and swelling behind the right ear with pain on movement of all joints. He gave the following history of his condition up until that time:

About six weeks previously, after diving into a swimming pool, he experienced a severe pain in the right ear after which he was unable to keep his head under the water. He had a sensation of something having ruptured his ear. A few days later, he consulted Dr. Raymond Hume in regard to the discharge which had developed from this ear. This cleared up after ten days or two weeks but patient did not feel entirely well. About twenty-four hours before I saw him he began to have the pain behind his right ear and pains in his joints and chills with high fever.

Past history: Had the usual childhood diseases with no complications. He was told that he had some heart trouble and ought to stay in bed when quite a young boy, but never suffered seriously from this. No operation; no history of luetic or gonorrheal infection.

Family history: Nothing in family history of any consequence.

Social status: Patient is a member of the senior class at Delgado Trades School; his habits are good and there are no gross irregularities.

Physical examination at this time revealed a white male of 18 years, lying in bed, acutely ill and suffering severely with pain. He was rational and answered questions well.

Head and neck: No irregularities of scalp. Complains of severe pain around the right mastoid region and that portion of the face immediately anterior to the right ear. There is a slight amount of swelling in this area. He complains of severe headache, mostly frontal. There is a definite disturbance of the 7th nerve, producing a partial right facial paralysis. There is no disturbance of the sensory function in this area; no discharge from either ear. Throat negative; tonsils and pharynx mildly injected.

Eyes: Negative except for disturbance in right due to partial right facial paralysis. Pupils react to light and accommodation.

Nose: Negative.

Neck: Negative.

Thorax: Bilaterally symmetrical. Chest expansion free and equal; respiration rapid (about 30 per minute). No abnormal pulsations; no abnormal breath sounds or rales detected.

Heart: Apex impulse was felt and seen in the 5th interspace well within the nipple line. On percussion, the left border was within the normal limits; rate 128 per minute, regular and rhythmic; no murmurs were heard. B. P. 120/76.

Abdomen: Essentially negative except for slight pain on deep palpation.

Extremities: Hands and elbows somewhat rigid. Complained of marked pain on slightest motion. Both lower extremities were spastic and slightly flexed. There was slight swelling of left knee and left ankle. Knee jerks were slightly exaggerated and there was a suggestion of a positive Kernig sign.

Laboratory examinations:

7-21-28—X-ray examination showed the right mastoid to be denser than normal.

8- 9-28—X-ray examination of the left knee was negative for bone pathology.

Blood:

7-21-28—W. B. C., 12,500; S. M., 12; L. M., 8; N. 80.

7-25-28—R. B. C., 3,880,000; Hg., 70%; W. B. C., 29,000; S. M., 9; L. M., 6; N., 85.

7-27-28—R. B. C., 3,800,000; Hg., 70%; W. B. C., 26,000; S. M., 12; L. M., 6; N., 82.

8- 3-28—R. B., 3,030,000; Hg., 60-70%; W. B. C., 13,500; S. M., 8; L. M., 10; N., 78; B. 4.

8- 8-28—R. B. C., 2,895,000; Hg., 65%; C. I., 1; W. B. C., 15,750; S. M., 10; L. M., 8; N. 80; B. 2.

8-13-28—Hg. 65%; W. B. C., 20,000; S. M., 24; L. M., 0; N., 76; E., 0.

Blood culture:

7-25-28—Blood culture—negative after 72 hours.

7-29-28—Culture negative after 72 hours.

7-30-28—Fluid from knee: Smear and culture show gram positive cocci occurring in chains.

8- 3-28—Blood culture negative after 72 hours.

8-15-28—Fluid from knee: Smear shows gram positive cocci occurring in chains; culture negative.

Operations:

7-21-28—Mastoidectomy.

7-25-28—Transfusion.

7-27-28—Tranfusion.

7-28-28—Transfusion.

7-30-28—Arthrotomy.

8-13-28—Arthrotomy.

After admission to the hospital, a roentgen-ray was made which showed an increased density in the right mastoid cells. An extensive mastoidectomy was done by Dr. Raymond Hume under general anesthesia, the whole of the mastoid region being found to contain engorged and spongey bone described as being typical of acute hemolytic streptococcal mastoiditis. His immediate post-operative condition was good but for the next two or three days, patient continued to run a septic type of temperature accompanied by profuse sweats and his general condition was far below what we had expected. Transfusion was resorted to on the 25th, four days after operation with very satisfactory results and his condition seemed to be improving slightly during the next day. Blood culture at this time was negative after seventy-two hours but the patient had every indication of a general streptococcal septicemia. He was seen in consultation by Dr. R. H. Potts, who gave us the following report: "General septicemia; multiple infectious arthritis; focal necrosis of the liver; endocarditis." He suggested that we proceed as we had in the past and administer salicylates for pain and possible therapeutic value. Patient did not improve after the first day and transfusion was again resorted to on the 27th, two days after the first transfusion and again on the 28th. After the third transfusion his condition seemed to improve but the left knee became swollen and markedly distended, precluding the possibility of any motion. Fluid from the knee by aspiration on July 30 showed smear and culture to reveal gram positive cocci occurring in chains. An arthrotomy was done, a free incision being made through the skin and into the joint capsule. The joint cavity was irrigated with about three or four gallons of warm normal saline which removed a large quantity of purulent material and fibrinous exudate. The skin was closed leaving the opening in the capsule for drainage. There was considerable drainage for about ten days through the skin wound, after which healing took place. The knee began a second time to swell. Aspiration again revealed a large collection of material and on August 13, a more radical arthrotomy was done on the opposite side of the knee and the capsule sutured to the skin margins to prevent too early closure. This drained nicely and on discharge from the hospital, September 3, 1928, the wound had almost completely healed by granulations from below. On second consultation with Dr. Potts on 8-14-28, he found evidence of myocarditis in addition to his findings at previous examination. On 8-9-28, X-ray examination of the knee was made which revealed no evidence of bone pathology. After second arthrotomy, temperature gradually came down to normal, patient leaving hospital on September 3, greatly improved.

After being discharged from the hospital, patient continued to run slight temperature, ranging from 99-100, and upon examination was found to have a large abscess about the size of a base-ball in the gluteal region, which was evacuated, cavity being packed with stanoxyl ointment. Healing was complete in six or seven days.

About two weeks ago, patient continued to present symptoms of cerebral irrigation which had been more or less constant since the beginning of his illness, being manifested by a tremor in his hands, increased knee jerks, especially on the right side, and an ankle clonus which caused me to have Dr. Connely to see him in consultation and I have asked Dr. Connely to give his findings.

Even though Mr. A. is here tonight for your observation, apparently well, having recovered complete function of his left knee joint, being able to walk without even a limp, he still has a myocardial deficiency and I feel that he should remain in bed for at least another two or three months. He is back attending his classes at the Delgado Trades School against medical advice.

DISCUSSION.

Dr. Allen said he had had a case with some similar features. He was called by Dr. Blackshear some four or five months ago to see what could be done in a case of septicemia following a mastoidectomy. Dr. Blackshear had been called to Meridian to see the patient, a child about five years of age, who was later brought to New Orleans. His temperature ranged from 104-106. One of the first cultures made showed culture dishes to be thickly speckled with Streptococcus hemolyticus. When the administration of

an anti-streptococcal serum was attempted, the patient did badly and it was abandoned. It was decided to give very large doses of mercurochrome to the point of tolerance. He was given doses every other day. Dr. Allen said he did not remember how many c.c.s he was given but he was given all he could stand and there was always a kidney reaction with definite albumin and casts. The boy got well with no further complications. It was interesting to watch the blood picture and see the streptococcus disappear under treatment in about ten days. However, he still had chills and fever which continued for about three weeks afterwards. It did not look like he had a chance but by continually hammering away, the little fellow responded to treatment and is now perfectly well.

Dr. R. H. Potts said that he had seen this young patient while he was in the hospital about his heart condition and that he was a most complete picture of septicemia—everything was septic. He was an extremely sick individual and he did not expect to see him get well. The entire endocardium was involved and still probably is. An electrocardiogram was not made on this patient on account of the expense. Dr. Potts said that he felt, regardless of the expense, an electrocardiogram should be procured.

Dr. E. McC. Connely said that he had seen the patient about two weeks ago and at that time he still had evidence of a definite irritation although the facial paralysis on the right side had cleared up.

Dr. Potts asked Dr. Connely if there was anything akin to chorea in the tremor exhibited by the patient.

Dr. Connely replied that the patient had a quite marked ankle clonus; the knee jerks were especially hyperactive and he showed every evidence of a residual irritation and he thought that this would account for the tremor.

Dr. Oliphant, in closing, said that repeated blood cultures failed to reveal any growth but he feels and is sure that those who saw this case with him are of the same opinion, that this was definitely a case of streptococcal septicemia. The only positive cultures found were made from the fluid aspirated from the left knee. In regard to methods used in combatting this general septic condition, only transfusions were depended upon for this purpose, no anti-streptococcal serum or mercurochrome being used.

Dr. Oliphant said that he wanted to thank Dr. Potts, Dr. Connely and Dr. Allen for their discussion and also Dr. Gray for the beautiful manner in which the case history was worked up and read.

STAFF MEETING VICKSBURG SANITARIUM AND CRAWFORD STREET HOSPITAL.

September 10, 1928.

SPECIAL CASE REPORTS.

Carcinoma of Gallbladder, with Clinical, Operative, and Autopsy Findings. Dr. A. Street.

The patient, a white male, aged 78 years, had had jaundice continuously for six weeks prior to his admission. The onset of the illness had been abrupt, with a chill and high fever. The fever had occurred at intervals since. There had been no pain of any kind. There were the additional symptoms of anorexia, loss of weight and strength, constipation, and pruritus. The physical examination had shown a palpable firm smooth liver border extending two inches below the right costal margin and extending across the epigastrium. There were also a marked anemia, emaciation, jaundice, and edema of feet and ankles.

The blood count showed a hemoglobin of 62 per cent with a total erythrocyte count of 2,228,000. The leukocytes were 18,600, neutrophils 74 per cent. Wassermann negative; icterus index, 50. Gastric analyses: Total acidity, 24; free hydrochloric acid, 0.

Roentgenograms showed a deformity of the duodenal cap, otherwise negative.

Following a diagnosis of obstructive jaundice, probably due to a malignant growth in the head of the pancreas, operation was performed under local anesthesia. There was found a stony hard growth in the gallbladder just proximal to the dome of the fundus, and another mass between this growth and the common duct region. No curative or palliative operation was possible, and a drain was left in the gallbladder. The patient died three days later.

Autopsy showed the growth in the fundus to be annular with a small lumen in its center. The other mass was found to consist of numerous facted stones.

The pathological diagnosis was: Adeno-carcinoma of gallbladder, common duct, liver, adjacent connective tissue, and lymph nodes. Chronic cholecystitis, cholelithiasis, cirrhosis of liver, chronic hepatitis.

The case was of interest because:

1. It is a case of carcinoma of the gallbladder in a male. Three-fourths of such cases occur in females.

2. There was no previous history suggesting gall stone disease. Such symptoms usually pre-

clude the development of the symptoms of carcinoma.

3. The symptoms and presence of cancerous obstruction of the common bile duct were accompanied by septic infection in the bile ducts, with its symptoms.

The case points out the necessity for early diagnosis in gall stone disease and their prompt removal.

Dr. L. S. Lippincott discussed the case.

Unusual Hemorrhage Following Adenoidectomy. Dr. G. M. Street.

E. M., a white female, aged 10 years, was admitted to hospital August 15, 1928.

The examination was essentially negative except for chronic disease of tonsils and marked hypertrophy of adenoids, with evidence of partial obstruction of naso-pharynx. Tonsil and adenoid operation was advised because of repeated attacks of acute tonsillitis.

Coagulation time, June 20, was two minutes; bleeding time instantaneous. On day of operation coagulation time was three and a half minutes; bleeding time instantaneous. The leukocyte count and urinalysis showed nothing remarkable.

Tonsillectomy and adenoidectomy was done without anything unusual taking place. Reacted in 30 minutes and seemed to be in excellent condition. Late in the afternoon she complained of feeling a lump in her throat. Examination showed a large clot filling the post-nasal space; tonsillar fossae dry. The hemorrhage was controlled after using other measures of pack, which was removed at the end of 48 hours. There was then no bleeding for another 48 hours, when bleeding again began. The post-nasal pack was replaced and a transfusion of 300 c.c. of citrated blood was given. This pack was removed at the end of 12 hours as it was believed that the transfusion would take care of any future bleeding.

On the third day following the blood transfusion, the patient again began spitting blood. A clot was removed several times during the next twelve hours and various styptics applied locally until the oozing from the fossa was checked.

From this time, no further trouble was encountered.

The case was discussed by Drs. L. S. Lippincott, A. Street and C. C. Thompson. It was suggested that clot retraction and prothrombin time might have been of value in this case.

Aneurism of the Digital Artery with Operation. Dr. J. A. K. Birchett, Jr.

Marie A., a colored female, aged 33 years, complained of swelling on the back of the left hand and numbness of her fingers.

While raising a window two weeks ago, the sash slipped and came down on the left hand, causing severe pain and numbness for several hours. About a week ago she noticed a swelling on the back of the left hand, and numbness, which had disappeared, now returned, most marked in first and second fingers. Patient stated she had never been confied to bed for more than a week in her life but had been treated for syphilis two years ago.

A small pulsating tumor, size of a large olive was seen back of the left hand in the region between and towards the bases of the second and third metacarpal bones. When this tumor was collapsed by pressure, it would immediately refill and pulsate when pressure was relieved. If the radial artery was occluded by digital pressure after tumor was collapsed, it would not become distended until radial compression was released. Diagnosis: Aneurism of the palmar branch of the deep palmer arch or of digital artery, a branch of the palmar. Wassermann test positive; urinalysis, leukocyte and differential counts were not remarkable.

Operation: Incision was made over tumor; sac was identified and removed without difficulty from under extensor tendons and from between metacarpal bones. Aneurism was sacculated and apparently from the proximal portion of the second digital artery. After sac was removed, there was an opening in the artery one-eighth of an inch in length. Vessel was ligated with fine silk proximal and distal to this opening and the wound closed. Recovery is complete and flexion and extension of the hand is possible without pain or discomfort.

Calculus of the Bladder. Dr. J. A. K. Birchett, Jr.

P. H., a white male, aged 59 years, a construction foreman, complained of pain on urination, with frequency and dull pains in lower abdomen and rectum. For past two or three years has been troubled with nocturia, three to five times. Gradually increasing pain and straining at end of urination; no sharp pains, but dull sense of fullness in perineal region. For past month he has been passing blood when straining and found it difficult to empty bladder.

A No. 20 F. sound was passed into bladder with no resistance in urethra. On entering bladder sound clinked against some hard substance, which was thought to be a stone. Roentgenogram showed calculus in bladder, size of small lemon.

The blood examinations were negative although urine showed evidence of nephritis.

Operation: The supra-pubic route was decided upon and the calculus removed under general anesthesia. Supra-pubic drain was removed on fifth day and at time of discharge, 11 days after operation, fistula had closed and patient was free of symptoms except for slight burning on urination and slight frequency.

Preoperative preparation consisted of washing out the bladder twice daily with warm boracic acid solution through an indwelling catheter. At time of operation urine was practically free of pus and mucus. The renal function was carefully observed to avoid a possibility of uremia developing. The day before the operation the urea nitrogen was 12.1 mg. and the creatinine 1.6 mg. per 100 c.c. of blood.

The calculus and roentgenograms were exhibited.

Discussed by Drs. G. M. Street, S. W. Johnston, A. Street.

Acute Anterior Poliomyelitis with Paralysis. Dr. L. J. Clark.

Mrs. C. E. R., a white female, aged 23 years, was seen on account of loss of use of legs three weeks previous to admission, following a febrile attack associated with headache, nausea and vomiting. About four or five days after the beginning of illness patient attempted to get out of bed and suddenly her legs gave way with her. Since this time has had no use of her legs and very slight motion in right leg. There is no pain and there has been no fever since about six days after the beginning of illness; no loss of bladder and rectum control.

Physical examination: The abdomen showed evidence of pregnancy. There was loss of motor control of both legs, flaccid type; no disturbance of thermal or tactile sensation. There is some slight atrophy of muscles of legs, more marked in the left. Pupils normal. Knee jerks sluggish on right side; barely present on left side.

A spinal puncture showed a clear fluid with leucocyte count of 18. Differential count, small mononuclears, 28 per cent; large mononuclears, 28 per cent; polymorph. neutrophiles, 24 per cent; globulin very slightly increased; protein, very slightly increased; colloidal gold reaction negative. Blood and urine were entirely negative.

The unusual features of this case are the age and the fact that she is pregnant. The problem of whether she should continue her pregnancy or not was considered and it was decided that in view of the fact that she was improving that she should not be interrupted. This case appears to be a sporadic case of poliomyelitis. Two nieces who have been with her a great deal developed what appeared to be in one a typical acute poliomyelitis with sudden paralysis of the respiratory muscles and death, and in the other a typical meningitis with gram negative diplococci found in the spinal fluid. This later patient died in spite of persistent serum treatment.

The prognosis in this case is good. Since being in the hospital she has regained use of her legs to the extent that she walks by herself now and that in a period of one month. The spinal fluid cell count was low, which also is in favor of a good result.

Discussed by Drs. A. Street, G. M. Street, Lippincott and S. W. Johnston.

Cellulitis of Forearm. H. H. Johnston.

A colored male, aged 43 years, entered the hospital complaining of tenderness and swelling of right arm following a bite by a spider on the upper third of the right forearm. There was considerable itching and the area was scratched.

The examination showed the right forearm and hand are moderately swollen, showing pitting edema. There is a small indurated area at site of bite. The epitrochlear and axillary glands on the right are swollen.

Blood shows erythrocytes 4,400,000, hemoglobin 72 per cent. There were 28,000 leukocytes, neutrophils 85 per cent. Sedimentation rate much accelerated.

After 12 days of active treatment a fluctuating mass appeared. On opening a large quantity of yellowish pus was evacuated. This was found positive for Staphylococcus aureus and streptococcus. After four days the discharge almost completely ceased and the temperature fell to 99. He was dismissed from the hospital six days later free of discharge and with no systemic symptoms.

Discussed by Drs. S. W. Johnston, A. Street, and L. S. Lippincott.

Some Notes on the Interpretation of Blood Findings. Dr. Leon S. Lippincott.

The blood is composed of formed elements—red corpuscles, leukocytes and blood platelets, floating in a complex field, the plasma. The circulating leukocytes are distinguished into two main types: (1) those containing granules in their cytoplasm—the polymorphonuclear neutrophils, eosinophils, and basophils; and (2) those without granules—the lymphocytes and monocytes or large mononuclears. The granular leukocytes, the red cells, the blood platelets, and probably the mono-

cytes are produced in the bone marrow; the lymphocytes are produced in lymphatic tissue throughout the body.

Leukocytosis or increased leukocytes in the circulating blood is a reactive process, and occurs with most infections at some stage. Most infections are accompanied by an increase in the neutrophils; at the same time there is a reduction of eosinophils. Numerous "indices" have been brought forward in an effort to interpret leucocytosis. Of these that of Schilling is simple and practical and has for its basis the determination of the percentage of immature as well as mature neutrophils in the differential count. The appearance of immature forms of neutrophils in the circulation is spoken of as "a shift to the left." A number of sample "hemograms" given by Piney in his recent work on hematology were shown and their application explained in such conditions as septic arthritis, suppuration, peritonitis, mild catarrhal inflammations, cerebral abscess, subphrenic abscess, recovery from infection, exophthalmic goitre, and pregnancy. It was shown that in fatal infections the immature forms of neutrophils may predominate, and that in certain conditions the Schilling index gives a much clearer insight into the true condition of the patient than do the temperature, pulse, and clinical findings. The index may be prognostic as well as diagnostic.

In infections and inflammatory conditions, a comparison of the total leukocyte count with the neutrophil percentage will often give more information than either alone. According to Todd and Sanford the percentage of neutrophils represents the severity of the infection, or, more correctly, the degree of toxic absorption; while the total count represents the patient's power of resistance. The Gibson chart to express this comparison graphically was demonstrated. In this chart, the total leukocytes are given at the left and the percent of neutrophils to the right. A line is drawn from one to the other on a scale. An ascending line from left to right indicates an unfavorable prognosis in proportion as the line approaches vertical. All fatal cases show a rising line. A descending or horizontal line indicates a favorable prognosis.

A series of Gibson chart interpretations of blood findings in acute appendicitis was presented on the screen.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

During the past month besides the regular meeting of the Board of Directors one quarterly executive meeting and one regular scientific meeting were held.

At the quarterly executive meeting aside from the routine business an amendment to Article 9 of the By-Laws was proposed whereby the Delegates to the Louisiana State Medical Society would be elected under the same circumstances and on the same date as the Officers of the Society instead of a special election occurring at the second scientific meeting in November. This amendment was defeated.

At the regular scientific meeting the following program was presented:

The Place of Ethylene Anesthesia in Surgery: Report of Fifteen Hundred Operations with this Anesthetic Alone.

By:.....Dr. James T. Nix.

Discussed by Drs. Ansel M. Cline, A. C. King, J. A. Danna, J. E. Landry, E. L. King, H. L. Kearney, Urban Maes, H. W. Kostmayer and closed by Dr. Nix.

Splanchnic Analgesia.

By:..... Dr. Emmett L. Irwin.

Discussed by Drs. M. J. Gelpi, Alton Ochsner, Emile Bloch and closed by Dr. Irwin.

The Practical Laboratory Diagnosis of Fungus Infections of the Hands and Feet.

By:.....Dr. Foster M. Johns.

Discussed by Dr. Van Studdiford and closed by Dr. Johns.

This office wishes to call attention to the membership that a fire proof safe has been purchased in which all of the valuable papers and transactions and some books which would not be replaceable, have been placed in it for safe keeping.

The Secretary's office has been in communication with the daily papers of this city in an endeavor to stopping the practice of inserting the attending physician's name in the paid birth notices which appear in the daily press. This practice has been reported by the Judiciary Committee and voted by the Society as being directly unethical and in violation of the Code of Ethics of the American Medical Association.

The fourth quarterly premium on the group insurance has been paid, there now being 240 members holding policies.

Many physicians have changed their office addresses and some of these changes have not been reported to this office. This delays the delivery of meeting notices, journals and etc. and we would appreciate very much your notifying this office of any changes.

All of the members have been requested for their photographs to appear in the coming edition of the History of the Orleans Parish Medical Society to be edited by Dr. A. E. Fossier. If you have not done so kindly send in your photograph and check at once.

The following Doctors have been elected to Membership:

Active Members——Drs. James E. Daboval, Lloyd J. Kuhn, Hans Schroeder, Joseph W. Reddock and Joseph T. Scott, Jr.

Reinstated—Dr. J. W. Rosenthal.

Interne Member—Dr. John K. Bullock.

TREASURER'S REPORT

Actual Book Balance, 8/31/28	$1,448.07
Receipts during September	667.61
	$2,115.68
Expenditures	$ 430.63
Book Balance: 10/1/28	$1,685.05

LIBRARIAN'S REPORT

Forty-four books have been added to the library during September. Of these 32 were received by binding, 6 by gift, 1 by purchase and 5 from the New Orleans Medical and Surgical Journal. Notation of new titles of recent date is herewith appended.

Gifts of journals, books and reprints have been received from Dr. J. H. Musser, Dr. Joseph Hume, Dr. P. T. Talbot, Dr. E. H. Walet and Dr. Roy E. Van Wart. Dr. Van Wart's gift comprises hundreds of journals and books and will form a most valuable addition to the library in the department of nervous and mental diseases.

NEW BOOKS.

Rockefeller Foundation—Annual Reports, 1926-1927.

Whitney—List and Classification of Diagnoses. 1928.

Reid—Heart in Modern Practice. 1928.

Strecker and Ebaugh—Practical Clinical Psychiatry. 1928.

Wright—Muscle Function. 1928.

Sheehan—Plastic Surgery of the Orbit. 1927.

Pende—Constitutional Inadequacies. 1928.

Meyer and McCormick—Studies in Scurvy. 1928.

H. THEODORE SIMON, M. D.,
Secretary.

THE PATIENT PAYS THE PIPER.—Better organizations, however, can be perfected for the more economic care of the sick. Many of the indigent sick and practically all of those who are not indigent, but cannot stand the extra financial load are now cared for at the expense of the philanthropic subscribers to hospitals and the physicians who serve these hospitals. No matter to what degree a hospital may be a charitable institution, practically every worker in it from scullery maid to superintendent is recompensed for service except the nurse, who is in training, and the staff physician. Thus the cost of the care of the needy sick is borne by two small groups—the philanthropists and the medical profession. In all fairness this burden should be distributed among the taxpayers of the nation, just as is the bill for our public-health activities.—Garland, Joseph: The Independent, Sept. 15, 1928, p. 255.

LOUISIANA STATE MEDICAL SOCIETY NEWS

H. Theodore Simon, M. D., Associate Editor.

MEDICAL BRANCH SCHOOL, MEDICAL RESERVE CORP.

Colonel J. Birney Guthrie, Medical Reserve, has called attention to a schedule and a statement sent out by the New Orleans Headquarters for the purposes of establishing a 87th Division Medical Branch School for medical officers in the City of New Orleans. This course will be given at 8:00 P. M. on the second and fourth Fridays of each months, in the rooms of the Orleans Parish Medical Society, 1551 Canal Street. The notification and the schedule of this course is given below.

HEADQUARTERS 312th MEDICAL REGIMENT

Office of the Executive Officer.

319 Custom House Bldg.,

New Orleans, Louisiana.

Subject: Medical Branch School, New Orleans, Louisiana.

To: All Medical Officers, residing in New Orleans, La.

1. Acting under authority of the Chief of Staff at this station, I should like to call your attention to a Branch School which has been established for the Medical Officers of New Orleans and the surrounding territory. A most attractive and profitable program has been prepared and of course, due credits will be given those who attend. Through the joint invitation of the Orleans Parish Medical Society and the Medical Department of Tulane University, the meetings will take place at the domicile of these organizations, 1551 Canal St., where a lantern is available for demonstration purposes. This station has done its part in the matter of enrollment in the Medical Section of the Officers Reserve Corps. Now the obligation rests on us to do our part in training, to keep up with established standards and to assimilate the work that has been done, and the changes wrought as the results of the World War experience.

2. This is a Medical Branch School and practically all instruction will be given by medical men. Lieutenant Col. Dalton H. Trepagnior, Medical Reserve, has been appointed instructor and various other reserve officers have parts of the course in preparation. It is our hope to be able to present at some time in the course slides and films illustrating some of the combat activities of the Medical Department. It is especially urged that Medical officers of the 312th Medical Regiment and all other Medical officers residing in New Orleans enroll for this course. The initial meeting was held at Tulane Medical Department, October 12, 1928, at 8 P. M.

J. BIRNEY GUTHRIE, M. D.,
Colonel, Medical Reserve,
Commanding 312th Med. Regiment.

DISTRICT NO. 26.

SCHEDULE.

November 9, 1928, Conference — The Infantry Division in March Column.

November 23, 1928, Conference—Relation of the Medical Regiment to the General Staff Sections, and to the Technical and Administrative Staff of the Division.

December 14, 1928, Conference—The Regiment in Division Column during the Initial Stages of a Meeting Engagement; Development of the Division; Positions of the Medical Regiment at the beginning of the Development of the Division; Development of the Medical Regiment.

December 28, 1928, Conference—Organization, Functions, and Operation of the Service Company.

January 11, 1929, Conference—The Collecting Battalion, Organization and Functions; Tactical Dispositions.

January 25, 1929, Conference—The Collecting Company, Organization and Functions.

February 8, 1929, Conference—The Ambulance Battalion, Organization Function.

February 22, 1929, Conference—The Ambulance Company, Animal Drawn, and Motorized Organization and Functions.

March 8, 1929, Conference—The Hospital Battalion, Organization, Functioning and Operation.

March 22, 1929, Conference—The Hospital Company, Organization, Equipment, Functions and Operation.

April 12, 1929, Conference—The Veterinary Company, Organization, Functions, Operation.

April 26, 1929, Conference—General Review.

May 10, 1929, Conference—General Review.

May 24, 1929—Examination in the subjects covered by the preceding conferences.

NEWS ITEMS.

Dr. R. C. Lynch, Professor of Otolaryngology with the Graduate School of Medicine of The Tulane University of Louisiana, left the city on October 4, to attend a meeting of the Board of Examiners in Otolaryngology in New York, meeting of the American College of Surgeons in Boston, meeting of the Board of Examiners in Otolaryngology in St. Louis and a meeting of the American Academy of Ophthalmology and Otolaryngology in St. Louis.

In Boston Dr. Lynch will take part in the discussion of the presentation of a pamphlet, the first recommendation to be made in the department of Ophthalmology and Otolaryngology towards the standardization of hospitals in this department. In St. Louis Dr. Lynch will present a paper on Stenosis of the Larynx.

Dr. J. C. Culpepper has recently moved from Shaw, Louisiana to Kerrville, Texas.

SOUTHWESTERN TUBERCULOSIS CONFERENCE.

The Second Annual Meeting of the Southwestern Tuberculosis Conference will be held January 22-23, 1929. The meeting place will be Ft. Worth, Texas, and the headquarters during the meeting will be at the Texas Hotel.

The Conference is organized for the purpose of assembling those of the medical profession, veterinary profession, public health and welfare departments and the lay and civic organizations now concerned in the eradication of tuberculosis of people and of livestock so that the discoveries and experiences of each may be co-ordinated for presentation to the masses in a clear and understandable manner; to further unite these various control elements in a sane and uncompromising effort to accomplish the humanitarian and urgently economic task to which they are devoted.

The various organizations interested from the states of Arkansas, Oklahoma, Mississippi, Louisiana and Texas comprise the membership of the Conference and it is further sponsored by interested National Organizations.

UNITED STATES HEALTH SERVICE.

Chronological List of Changes of Duties and Stations of Commissioned and Other Officers of the United States Public Health Service.

By order of the Surgeon-General, Surgeon T. B. H. Anderson is relieved from duty at New Orleans, La., and assigned to duty at Marine Hospital, Pittsburgh, Pa.

DEDICATION OF JAMES M. BATCHELOR BUILDING.

The Presbyterrean Hospital Board of Managers, announced, sometime ago, its intention to construct a new hospital and accessory buildings—outlining a building program that was to proceed over a period of about three years and which when completed, would add to New Orleans one of the most modern hospital plants in the country. The plans have been carried out almost uninterruptedly; and on the evening of October 12 last, formal dedication exercises for the first unit of this building program, were held. A large crowd was present; and, short addresses were made by the Honorable A. J. O'Keefe, mayor, Dr. J. C. Barr, President of the Board of Managers, and Drs. Gessner, Thibault, and Robin. Dr. Batchelor, in honor of whom the building was named, made a very pleasing address expressing his deep appreciation and profound gratitude.

MEETING OF ST. TAMMANY PARISH MEDICAL SOCIETY OF OCTOBER 12, 1928.

The Society met at the New Southern Hotel at Covington, La., with the following answering roll call: F. F. Young, N. M. Hebert, Roland Young, J. F. Buquoi, R. B. Paine, W. L. Stevenson, A. F. Herrin, J. K. Griffith and F. R. Singleton. Dr. Homer Dupuy of New Orleans was the specially invited essayist of the evening and Dr. J. D. Young of Shreveport, La., who happened to be visiting his parents and Dr. Lawrence Randolph Young, of Rayne, La., were present. Drs. F. F. Young, the President and Roland Young, the Secretary were at their respective posts.

The reading and adoption of minutes, as well as report of secretary-treasurer was first in order after roll call, which when completed, Dr. Dupuy was asked for his paper. The Doctor chose as his subject nasal affections and their relation to sinus disease or vice versa. The great Doctor said seventy-five per cent of all nasal affections were due to sinus trouble and more often to antrum and ethmoids. The talk was supplemented by large anatomic pictures to clarify matters and assist in explanations. This was particularly enjoyed by all and considerable discussion followed. The President then asked if any of the guest desired to give the Society a little talk and urged that it be done if they so wished. Dr. J. D. Young graciously stepped forward and in a classical way gave quite an account of epidemic encephalitis mentioning its various types and

taking each in turn separately and discoursed on them in a brief though interesting and scientific manner. Dr. Young was then asked a few questions by Drs. Homer Dupuy and Roland Young and some discussion followed.

Dr. Griffith in behalf of the Society in a befitting manner in his good big way thanked the Doctors for their talks particularly Dr. Dupuy, which was followed by kind remarks by both the visiting physicians and the members.

Dr. Buquoi under miscellaneous business called the attention of the Society to clippings of the press listing the Doctors with the mid-wives in reporting births. He frowned upon this as did the Society and the following resolution was moved by him and seconded by Dr. Griffith and unanimously carried: Whereas it has come to our notice that several members of the State Medical Society in attendance upon obstetrical patients willingly consent to their names being published in the birth notice column of newspapers—in many instances in connection with mid-wives. Be it resolved that as a component unit of the State Medical Society the St. Tammany Parish Medical Society in regular meeting assembled condemns such a practice as irregular and commercialistic and protest against the further persuance of such unethical conduct and that a copy of this resolution be sent to the State Medical Society Journal, our Councilor and the registrar of vital statistics.

It was moved by F. F. Young that the next meeting be held in Slidell—seconded by Dr. Buquoi, unanimously carried.

ROLAND YOUNG, M. D.,
Secy-Tres., St. Tammany Parish Medical Society.

A COURSE OF LECTURES ON BIOLOGIC SUBJECTS.

The following lectures will be given during the year 1928-29 before the members of Beta Mu, the honorary biological fraternity of Tulane University:

November 7. *The Relation of Light to Human Health*, by Dr. Henry Laurens, Professor of Physiology, Tulane University College of Medicine.

December 5. *Adaptation to Parasitic Life in the Animal Kingdom*, by Dr. Ernest Carroll Faust of the Department of Tropical Medicine, Tulane University.

January 10. *The Life of a Coral Reef*, by Dr. Wm. H. Longley, Professor of Biology, Goucher College, Baltimore, Md.

March 6. *Twins and Twinning*, by Dr. H. H. Newman, Professor of Zoology and Dean of the College of Science, University of Chicago.

April 3. *Progress of Forestry in the Southern States*, by E. L. Demmon, Acting Director, Southern Forest Experiment Station, United States Department of Agriculture.

May 14. *Malaria Control*, by Dr. C. C. Bass, Dean of the College of Medicine, Tulane University.

Members of the Orleans Parish and the Louisiana State Medical Society, who are interested in this lecture series are invited to become associate members of Beta Mu. Application for membership accompanied by remittance of $2.00 for the annual dues may be sent to the secretary, Mr. Waldo L. Treuting, Department of Zoology, Tulane University. There will be no sale of tickets, the lectures being for members only.

CORRESPONDENCE.

The Christian Science Watchman, 20 Jackson Place N. W., Washington, D. C.,
October 17, 1928.

Editor, New Orleans Medical and Surgical Journal,
1551 Canal Street, New Orleans Louisiana.

Dear Sir:

The tragedies that have been permitted in the name of Christian Science by its overzealous devotees have largely justified the widespread prejudice against it. The Christian Science Parent Church, the independent minority movement in Christian Science, is endeavoring to bring a new spirit of sanity and common sense into the practice of mental healing. It recognizes the unselfish, humanitarian labors of the medical profession in alleviating human suffering. It likewise recognizes the vital function of spiritual forces in relation to health. It is convinced that there exists a basis of co-operation on which medicine and religion may thrieve together for the advancement of world health.

Since Mrs. Eddy's death, Christian Science practice has very largely become a commercialized faith-cure. The record of disease and death among Christian Scientist during the last few years is appalling. Because of a superstition that the use of a drug is an evil and the employment of medical aid tantamount to a confession that Christian Science has failed, the majority of the adherents of that faith turn to medical assistance only as a last resort, usually secretly and with the depressing conviction that they are committing a positive sin. Such an attitude tends to nullify the work of the physician and deplete the patient's mental capacity for recuperation. Frequently the doctor

is called only when death is considered imminent, and to prevent, if possible, the embarrassment of an inquest.

The conditions have arisen from a misconception of Christian Science in its larger application. In order to prove to an incredulous world that the body can be healed by mind, drugs were discarded during the early states of the movement. Nevertheless, it is a recognized fact in Christian Science that a drug may be the medium through which the common faith and hope of the majority of mankind expresses itself. In the personal experience of Mrs. Eddy there came a time when neither her own nor her followers' unaided faith was sufficient to relieve her of serious suffering. Understanding the power of the faith of the majority of mankind in medical science she decided to utilize it, and gratefully availed herself of the services of reputable physicians on various occasions.

In so doing, she was consistent with her own teaching on the relation of a minority's faith in mind-power to a majority's faith in material means. She was far in advance of her followers' practical application of Mind-Science. Had her example been intelligently followed by her students, Christian Science practice would today hold a higher place in the general estimation of the world.

The Christian Science Parent Church was organized a few years ago under the leadership of Mrs. Annie C. Bill. It has developed branches throughout Great Britian, America, Australia, and elsewhere. Its members have been recruited almost entirely from those who have resigned from the original Christian Science organization after they became convinced that the trend of thought within that body precluded further advancement of Mind-Science.

This organization maintains that the work of the Christian Scientists is limited to the teaching of spiritual truth, and to removing fear and other unhealthful moral conditions. Its members are forbidden by their Church by-laws to meddle in any way with medical or surgical practice, but must leave such work to those who are qualified and legally authorized for that responsibility. Neither shall a practitioner of this Church render his services unless both patient and attending physician request his aid.

Spiritual healing has a definite place in therapeutic practice. Therefore, in order that it may be utilized under such conditions as will keep it within its proper field and insure the maximum results, we bespeak the intelligent co-operation of the medical fraternity.

Yours very truly,

A. M. VICKERY,
Editor.

With this letter there was enclosed a pamphlet entitled "A Ghastly Record," which points out that in Brookline, Massachusetts, there is an institution called The Christian Science Benevolent Association Sanatorium, a magnificent structure for the care of the Christian Science ill. The author's pamphlet states that there is a growing dissatisfaction with this sanatorium among many Christian Scientists, who declare that it is a complete inversion of Christian Science. He adds furthermore the following, which is worth quoting:

"Brookline is the home of three medical hospitals of national reputation—the Corey Hill Hospital, the Brookline General Hospital, and the Brooks Hospital. In points of deaths, during the five-years period since the Christian Science Benevolent Association Sanatorium was established, and which the above figures cover, almost as many persons died in the Christian Science Benevolent Sanatorium as in all three of these famous medical hospitals together, and eighteen more Christian Scientists died in Brookline during this period than in all three of them."

ALCOHOL AND HUMAN LIFE.—So logical must such ideas appear—so plainly fair and ethical—that it is something like a shock to learn that in many States statutory law compels the authors of text-books on physiology and hygiene used in schools to include a chapter on the deleterious effect of alcohol on human life and health. I know of nothing in the American scene today more dowright immoral! Here is, at best, a highly debatable subject, one to be settled only by the methods of science. And by law an interpretation is imposed upon the result of those investigations before they are made. Science by legislation. Truth by legislation, when the object of legislation is justice. The people who support these grossly wicked practices are the ones who consider themselves the most moral individuals in the community. Last year, in discussing some public remarks which I made jointly with the Professor of Biology at the University of Kansas, a clergyman said that "scientists must make their discoveries harmonize with the beliefs of the American people." And neither then nor at any later time did he appear to realize the enormity of what he had uttered—how blasphemous it was, how immoral. Because, translated into his own phraseology and philosophy, what he said was that if a man discovered one of God's truths and that truth was not what the American people believed he must announce that the truth of God which he had discovered was a lie. Yet this minister's statement was a revelation of the real and unconscious attitude of his soul.—Clendening, Logan: The Outlook, July 18, 1928, p. 452.

MISSISSIPPI STATE MEDICAL ASSOCIATION NEWS

J. S. Ullman, M. D., Associate Editor.

Dr. Inman W. Cooper of Meridian, Mississippi, Councilor of the Southern Medical Association for the state of Mississippi, wishes to call the attention of the members of the Mississippi State Medical Association to the fact that the Southern Medical Association will hold its annual meeting in Asheville, North Carolina, November 12-15.

The preliminary announcements indicate a most interesting program. Monday, November 12, will be devoted to clinics arranged by the physicians of Asheville. On Tuesday there will be clinical demonstrations by some of the best men of the South. These clinical meetings will equal in excellence those of past years. Wednesday and Thursday will be devoted to the work of the various sections.

Ample entertainment for the visiting doctors is being arranged and among other items mentioned are golf and trap shooting. It is to be hoped that Mississippi will send a large delegation.

President W. H. Frizell addressed the South Mississippi Medical Society at their recent meeting in Hattiesburg. This society will hold the next meeting in Laurel, December 13.

Dr. G. S. Ramsey, formerly of Clinton and late of Jackson, is now practising in Brookhaven.

The King's Daughters Hospital at Brookhaven, Mississippi, is devising ways and means of enlarging their buildings so as to afford more room.

Dr. L. S. Gaudet, of Natchez, has been appointed Correspondent for the state of Mississippi, to the American Journal of Ophthalmology. He requests that news items, changes of addresses and reports of special or rare cases by opthalmologists be sent to him.

On October 9, the regular meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held in Vicksburg. The following program was presented:

1. Caesarian Section vs. Laparo-hysterectomy—Dr. D. A. Pettit.

2. Children—Sick and Well—Dr. I. C. Knox.

3. Ductless Grand Pathology and Therapy in Children—Dr. Noel C. Womack, Jackson.

The following are some abstracts of September 11:

Am I My Brother's Keeper?—Dr. L. L. Martin. I wish to bring up some phases of the relationship existing between physicians on the one hand and surgeons and specialists on the other. We physicians, especially those in the country, must rely to a great extent on our city brothers with their laboratories, hospitals and specialized knowledge. We need them and in a measure, they depend on us. Patients are sometimes referred without acknowledgement of the courtesy; also patients are referred for diagnosis only, and in the shuffle lost completely. Do you wonder at the more cordial feeling toward the specialist who invariably writes or calls up to thank you for the courtesy and to give his diagnosis and outline of treatment? Consultants sometimes forget their ethical position by giving the patient or his family the impression that the family physician has not done all that should have been done. I do not think it amiss for any of us to refresh our memory of the Golden Rule, for we of the profession are surely in a great measure "Our Brother's Keeper."

Vincent's Infection of the Gums.—Dr. G. W. F. Rembert, Jackson. Vincent's infection is a better term than Vincent's angina. History of this malady goes back to the eighteenth century, when the French troops in Italy had the disease. The organism was discovered by an American dentist, Miller, in 1893, in Berlin. Vincent did much work with the organism and it is named after him. Vincent's infections do not seem to have been severe until during the last war. It was then called trench mouth or trench gums. It is very contagious, 200 of 800 German prisoners in one camp developing the disease in two days. It is a disease of close contact, and most frequently affects the gums, tonsils, gastro-intestinal tract, prepuce and clitoris. It has been called the fourth venereal disease. There are three classes of gangrene: 1. Due to the colon bacillus alone or with other organisms; 2. due to the Welch bacillus; and 3. Vincent's infection. Probably more gangren and putrid infections are due to Vincent's infection is often associated with colon, streptococcus, and staphylococcus. These other organisms seem to pave the way for the Vincent's infection. With infections of the gums there is redness, swelling, pain and a distinctive odor. This organism has been reported in five per cent of gangrenous appendices. It may cause ulcerated lesions of the skin and abscesses of the lung fol-

lowing tonsillectomy. The dentist is important in its treatment. For treatment many recommend 5 per cent chromic acid. Sodium perborate seems to have a specific action used as a gargle or mouth wash or as a thick paste worked into the gums on a soft tooth brush. Alleviation of symptoms does not necessarily mean that the patient is cured.

WARNING AGAINST SPECTACLE PEDDLERS.

The people are warned against any peddlers claiming to be with the Mississippi State Commission for the Blind. No one has been authorized by the Commission to sell or give away glasses in their name.

We have been informed that two or three persons have been traveling over the State imposing upon blind people, those partially blind and those with minor defects of vision in this way.

As State Health Officer and a member of the State Commission for the Blind, I would warn the people of the State of the danger of not having glasses fitted correctly by a specialist.

If you need glasses or treatment for the eyes, go to an eye specialist, one who is competent to fit glasses and to treat those delicate instruments of vision, the eyes. Don't take a chance by buying them from a peddler, or a clerk in a store. Quite often, I have seen people who should know better go into Five and Ten Cent Stores and other stores to purchase spectacles.

The wonder is that a great many more people do not have trouble with their eyes when we take into consideration the abuse, the neglect, and the vicious treatment given.

FELIX J. UNDERWOOD, M. D.

The annual meeting of the Homochitto Valley Medical Society was held in Natchez, October 11. President of the State Association, Dr. W. H. Frizell, and Dr. Alphonse Meyer of Memphis were guests of the society.

Election of officers for the year, 1929, resulted as follows:

President: Dr. W. H. H. Lewis.

Vice-Presidents:

Adams County—Dr. J. D. Shields.
Amite County—Dr. J. W. Dugger.
Franklin County—Dr. C. E. Mullins.
Jefferson County—Dr. R. B. Clark.
Wilkinson County—Dr. J. W. Brandon.

Secretary-Treasurer: Dr. W. K. Stowers.

Board of Censors: Dr. R. D. Sessions, elected for 1929-30-31.

Dr. S. R. Towns was elected to fill the vacancy for Jefferson County on the Board of Censors caused by Dr. J. C. McNair's absence (1929).

Dr. W. H. Aikman was re-elected on Medical Defense Committee for 1929.

The Society voted to remit the dues of the secretary.

Clinical reports were made on the injection of sodium salicylate in the treatment of varicose veins.

Dr. Frizell addressed the society, making an unusually good and most impressive talk on medical organization and on co-operation among physicians.

Dr. Alphonse H. Meyer presented a paper on Fracture of the Femur in the Aged, which was illustrated by a small model and by lantern slides.

The Staff of the Vicksburg Sanatarium held its monthly meeting on October 10, with the following program.

1. Osteomyelitis on the Flat Bones of the Cranium—Dr. A. Street.

2. Necrosis of the Mandible—Dr. J. A. K. Birchett, Jr.

3. Coronary Thrombosis—Dr. L. J. Clark.

4. Retro-bulbar Neuritis—Dr. E. H. Jones.

5. Broncho-biliary Fistula—Dr. W. H. Parsons.

6. Intestinal Obstruction—Dr. H. H. Johnston.

7. The Coagulation of the Blood—Dr. L. S. Lipincott.

The Editor of this column wishes to urge the officers of the Association and of the County Societies as well as individual physicians to co-operate with him to make this column what it should be—a news column, a means whereby the doctors of the state may be kept acquainted with the activities of their friends and colleagues in other parts of the state. There is no reason why any individual physician should not send in to the Editor an account of his trip to some clinic, change of address, or any other news item regarding himself, his hospital or his public health work in his county.

Those who pay any attention to this column will note that during the past few months the news has been confined almost entirely to the same few old standbys. Several of the largest societies in the state are conspicuous by their silence.

BOOK REVIEWS

Mechanics of the Digestive Tract: By W. C. Alvarez, M. D. New York, Paul B. Hoeber, Inc. 1928. 447 pp.

Like the first edition, Alvarez's second work represents the newer conception of gastric and intestinal physiology especially that of motility. The gradient idea of the control of peristalsis in the digestive tract and many of the recent studies on function of this canal are the fruits of his own ardent and painstaking researches.

There are clear descriptions, in separate chapters, on the activity of each segment of the alimentary canal including esophagus, cardia, stomach, pylorus, small intestine, cecum, colon. The application of these physiological facts to clinical diagnosis is a feature of the book of greatest interest to the clinician. In this work the reader may visualize a representative of a happy, but unusual combination, practitioner plus physiologist.

The chapter on the mechanics of the gall bladder is illuminating and brings out the recent discoveries in the new era of our knowledge of gall bladder function which started but a few years ago. Alvarez is most liberal in his credit to other investigators, and many of the leaders among them are also represented by their personal photographs.

This text should be the proud possession of every medical man interested in the gastric-intestinal tract, whether be be in the laboratory or in the clinic.

DANIEL N. SILVERMAN, M. D.

Criteria for the Classification and Diagnosis of Heart Disease: By a Committee Appointed by the Heart Committee of the New York Tuberculosis and Health Association, Inc., New York. Paul B. Hoeber, 1928, 92 pp.

In order to have a standard nomenclature and terminology, as well as uniform criteria for the employment of adjectives and descriptive terms, the Health Committee of the New York Tuberculosis and Health Association has brought out this little volume under the editorship of Dr. Pardee. The book first discusses the criteria for nomenclature of cardiac diagnosis, calling attention to the fact that the diagnosis should contain, in order to be complete, an etiologic, anatomic and physiologic diagnosis, as well as an estimate of the functional capacity of the patient's heart. For example, "Syphilitic heart disease, with aortic insufficiency, premature articular contractions, able to carry on ordinary physical activity," is a rather complicated diagnosis, yet such a diagnosis gives us the essential features of that particular individual's cardiac condition and with the knowledge of the etiologic criteria and the anatomic criteria, which are outlined in the latter part of the book, the reader of such a diagnosis would understand just exactly what the original writer felt about his diagnosis and his estimation of that man's cardiac lesion. Simplifications of diagnosis are to be welcomed, but of greater importance than this is a nomenclature which is understood by all medical men so that they will speak the same language. That is not so, witness the different terms used to describe rales, or question medical men about bronchial breathing and see how the answers vary. It would seem that it would be a relatively simple matter to have a standard nomenclature, but such is not the case. The Heart Association is to be congratulated upon their effort to classify heart disease and to bring forth a terminology which can be employed and understood universally.

J. H. MUSSER, M. D.

A Laboratory Manual of Physiological Chemistry: By D. Wright Wilson. Baltimore, The Williams and Wilkins Company. 1928. 272 pp.

This manual is a revision of one used for several years at the Johns Hopkins University and the University of Pennsylvania. As indicated in the preface, many experiments given are not regularly assigned, but are available for special work. Part I contains experiments on subjects introductory to physiological chemistry proper, electrolytic dissociation, colloids, fats, carbohydrates and proteins. In Part II are found qualitative tests, quantitative determinations and methods of preparation of various substances of bio-chemical interest. Here are considered the digestive secretions, urine, milk, blood, bone, muscle, the cell nucleus and bile. Alternate methods are given in a number of cases. The book is something more than a mere laboratory outline in that a considerable amount of explanation is included. Since every other page is blank, no extra notebook is necessary for the student.

R. C. CORLEY, M. D.

Bacteriology for Nurses: By Charles F. Carter, B. S., M. D. St. Louis, C. V. Mosby Company. 1928. 213 pp.

A most perfect example of abbreviated clearness of presentation of a rather intricate subject to a class of pupils to whom the amount of material in the volume is sufficient for their practical every day purposes.

J. H. MUSSER, M. D.

A Handbook of the Diseases of the Stomach: By Stanley Wyard, M. D., B. S., M. R. C. P. London, Oxford University Press. 1927. 387 pp.

The text is one of several recently published on this single organ. The important functional disturbances and the pathological conditions of the stomach are discussed in separate chapters. Unlike some of the other books on diseases of the stomach, Wyard's is truly limited in its scope to that viscus. The book is almost entirely clinical and a valuable reference for one in general practice. There is no bibliography to enable one to investigate any particular phase of the text or to do research from it.

DANIEL N. SILVERMAN, M. D.

Folklore of the Teeth: By Leo Kanner, M. D. New York, MacMillan Company. 1928. 316 pp.

The folklore of medicine has had numerous authors who have taken up various phases of this terrifically comprehensive subject. The dentists, however, have never rated any historical researches in their branch of medicine, and it has remained for a medical man to do this. The result is an extremely interesting compilation upon the superstitions, the symbolisms, and the folklore of various races concerning the teeth and the evils which befall them. There is first described various legends concerning the number, position and time of eruption of the teeth, together with the methods prevailing in days of yore to prevent injury to the child at the time of dentition. Various chapters are then devoted to such interesting subjects as the appreciation of healthy teeth, the fate of the milk teeth, the story of the toothpick and the toothbrush, and then we come to a very long section devoted largely to toothache. The general ideas and conceptions of toothaches and means of curing them in the early ages down to the middle ages are described in a most interesting way. The treatment of toothache takes up considerable space. The plant treatment extends alphabetically from aloes to wormwood, the first of which was used in ancient Greece. The Czechs fumigated with wormwood for the purpose of easing pain. Between the extremes of the letters A and W there are enumerated innumerable plants which have been used by numerous races. All types of animals, or their anatomical parts, have also been used for treatment of this curse of nature. In old Germany bear's gall helped; in Bavaria the head of a weasel is used as an amulet against toothache. All types of human organs and secretions have been used. Inorganic tootache remedied are described by the author, while written and spoken charms against toothache are too numerous to recite. We even find a patroness of toothache, St. Appolonia, who fell under the wrath of the Emperor Julian and had her teeth knocked out with pointed iron instruments and the roots pulled out with tongs. So bravely did this martyr withstand the punishment that she was soon canonized as an example of Christian fortitude.

Many other interesting details as to the use of teeth as drugs, charms, relics, souvenirs, jewelry, and so on, follow. In this rather cursory description of the book it may be seen that it will prove most pleasing reading to those interested in quasi-historical medicine.

J. H. MUSSER, M. D.

Muscle Function: By Wilhelmine G. Wright. New York, Paul B. Hoeber. 1928. pp. 188.

Muscle Function, by W. Wright, offers the physical therapy technician and the physician a book which is highly instructive and very interesting. It is one which fills a long-felt need to those concerned in the after treatment of poliomyelitis and other forms of paralysis and to the study of many muscle function problems. Especially could be mentioned those in connection with the after care of fractures and post-operative myotonia. The writer's discussion of the function of muscles is so presented that it offers itself as a book of great value in reference to the after care of cases of tendon transplantation.

The book recommends itself to any one interested in body mechanics, and they will find the volume presented in such a manner that the writer's many years of experience should be indispensable. Not only does it concern itself with paralyzed muscles, but also the function of the normal body musculature. It might be considered a valuable explanatory edition to general anatomy and, therefore, is of value not only to the graduate physician and physical therapy technician, but also to the undergraduate.

JOHN T. O'FERRALL, M. D.

Heart in Modern Practice: By William Duncan Reid. Philadelphia, J. B. Lippincott & Company. 1928. pp. 466.

This book will need no recommendation to those who have read the first edition. The author has enlarged the book and brought it up to date. It contains the new authorized classification of heart disease published by the American Heart Association as well as the author's own classification. The chapters on cardiac arrhythmias have been enlarged and clarified by many excellent illustrations. As a whole, this book incorporates in a concrete manner, the best of our news knowledge of cardiology.

RANDOLPH LYONS, M. D.

The Nose, Throat and Ear: John F. Barnhill, M. D., F. A. C. S. New York, D. Appleton & Co. 1928. pp. 604.

This is an excellent manual especially to be recommended for the omission of much of the non-essentials.

In submucous resection the author's remarks on asepsis, including the use of rubber gloves by the operator, are noteworthy.

In discussing the surgical removal of the entire tonsil as against the old technique of tonsillotomy the author logically argues that since the tonsillar crypt traverses the whole thickness of the tonsil, and disease of the tonsil is essentially a disease of the crypt, that surgical removal, to be effective, must include removal of the entire tonsil.

Tonsillectomy (provided the associated pulmonary tuberculosis is in an early stage and not active) is advocated in tuberculosis of the tonsil; many laryngologists are not in accord with this opinion.

The book is very readable and remarkably free from topographic errors. Anatomical diagrams and descriptions are excellent. There is an unusually complete section on diseases of the salivary glands.

The section on bronchoscopy and esophagoscopy is good. The author gives an unusually lucid description of tracheotomy.

About one-third of the volume is occupied with diseases of the ear and their complications. Operative difficulties here are clarified by good illustrations and the book generally is well illustrated with 452 well-excuted and carefully chosen figures and diagrams.

H. KEARNEY, M. D.

Blood and Urine Chemistry: By R. B. H. Gradwohl,, M. D., and Ida E. Gradwohl, A. B. St. Louis, C. V. Mosby Co. 1928. pp. 526.

This volume is a compilation of the best recognized laboratory methods used in urine and blood chemistry today. The selected technique is stated in simple form so that the reader need not be a finished laboratory worker to understand the procedures.

Tihs work is divided into four parts: Part I deals with blood chemistry and includes not only various routine quantitative and qualitative determination of the various constituents of blood but beginning with the most appropriate and complete equipment of a blood chemistry laboratory, includes the routine examination, and closes with techniques for the determination of the occasionally requested constituents of blood.

Part II deals with the chemistry of urine in the same manner as Part I deals with the chemistry of blood.

Part III is the most valuable portion of the work to the medical practitioner as it contains the interpretation placed upon the findings of the various determinations in Parts I and II.

Part IV discusses basal metabolism and includes the various techniques, the influence of various factors in the determination of the rate, and the interpretation of the results.

This work may be considered one of the outstanding treatises on blood and urine chemistry that can be found on the market today. It is a highly valuable volume to anyone having any connection whatsoever with laboratory technique and its interretation.

EDWIN H. LAWSON, M. D.

Diabetic Manual for Patients: By Henry J. John, M. A., M. D. St. Louis, C. V. Mosby Company. 1928. pp. 202.

Another name added to the list of those who have prepared manuals for diabetic patients. It is quite possible that a society will be formed in the near future, members of which will consist of those who have written diabetic manuals.

J. H. MUSSER, M. D.

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